



APPENDIX A

Alignment of Full-Length DNA Contig Sequence (SEQ ID NO: 1) with Each of Polypeptide Sequences of SEQ ID NOS: 2-34

<110> Farnet, Chris M.
Zazopoulos, Emmanuel
Staffa, Alfredo

<120> GENE CLUSTER FOR RAMOPLANIN BIOSYNTHESIS

<130> 3002-2US

<140> US 09/976,059
<141> 2001-10-15

<150> US 60/239,924
<151> 2000-10-13

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<170> PatentIn version 3.2

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Arg	Trp	Gln	Ala	Leu	Ala	Gly	Ala	Val	Ala	Leu	Val	Pro	Leu	Val	Ala	
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tac	ttg	atc	gtc	acg	agc	ctg	gac	atc	cgg	cgc	gcc	cac	gac	cgc	tat	2190
Tyr	Leu	Ile	Val	Thr	Ser	Leu	Asp	Ile	Arg	Arg	Ala	His	Asp	Arg	Tyr	
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cag	gcg	cag	tgc	gcg	tcc	atc	ggc	aac	tgc	gcc	gag	gcg	atg	ctc	cag	2238
Gln	Ala	Gln	Cys	Ala	Ser	Ile	Gly	Asn	Cys	Ala	Glu	Ala	Met	Leu	Gln	
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Ala	Arg	Glu	Leu	Glu	Thr	Gly	Thr	His	Arg	Leu	Val	Trp	Asn	Gln	Ser	
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Phe	Asp	Ala	Arg	Asn	Ile	Val	Pro	Val	Ala	Tyr	Ala	Ala	Phe	Ala	Leu	
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Pro	Leu	Leu	Thr	Ala	Asp	Gly	Thr	Arg	Leu	Asp	Lys	Ala	Thr	Tyr	Arg	
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Lys	Cys	Val	Thr	Asp	Pro	Pro	Ala	Val	Ser	Gly	Gly	Ala	Pro	Gly	Val	
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ccg cgc ggc cgg gtg atc ggc ctg gtc ggc ccg aac ggc gcc ggc aag Pro Arg Gly Arg Val Ile Gly Leu Val Gly Pro Asn Gly Ala Gly Lys 35 40 45	3261
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gcc aag gtc ggc ttc gtc gca cag gac acc ccg gtc tac agc aac ttc Ala Lys Val Gly Phe Val Ala Gln Asp Thr Pro Val Tyr Ser Asn Phe 85 90 95	3405
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Pro	Ile	Gln	Leu	Glu	Glu	Leu	Val	Leu	Ala	Tyr	Met	Thr	Arg	Ala	Met	
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atg	agc	tgg	cgg	cag	ttc	cgc	ggc	cag	gcc	gtc						4070
Met	Ser	Trp	Arg	Gln	Phe	Arg	Gly	Gln	Ala	Val						
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gtg gcg ttc gtg atc ttc cag ttc ctg gtg ccg aac ctg gtg cgc ccc Val Ala Phe Val Ile Phe Gln Phe Leu Val Pro Asn Leu Val Arg Pro	190	195	200	4646
cac ctc atg ccg gcc aag cac ctg gtc aag ccg atg acg gtg agc gcc His Leu Met Pro Ala Lys His Leu Val Lys Pro Met Thr Val Ser Ala	205	210	215	4694
atc aac gag gcc aag tcg ctg ggc agc atc acc ggc gcg ccg gtg ctg Ile Asn Glu Ala Lys Ser Leu Gly Ser Ile Thr Gly Ala Pro Val Leu	220	225	230	4742
aac ggc ctg tcg atc tcg cag ggc tgg atc acc gac gtc agc gcg ctc Asn Gly Leu Ser Ile Ser Gln Gly Trp Ile Thr Asp Val Ser Ala Leu	240	245	250	4790
aag acc gcc gac ggc cgg tcg ctg gac gcg aag acg ttc gac aac tgc Lys Thr Ala Asp Gly Arg Ser Leu Asp Ala Lys Thr Phe Asp Asn Cys	255	260	265	4838
tac atg aac gcg ccc aag acc ggt gcg acc gag ggc ccg tac ggt gac Tyr Met Asn Ala Pro Lys Thr Gly Ala Thr Glu Gly Pro Tyr Gly Asp	270	275	280	4886
gtc gcg gtc tgc ctg gcc aag ctg gac ctg cac gtc gac atc gcc tac Val Ala Val Cys Leu Ala Lys Leu Asp Leu His Val Asp Ile Ala Tyr	285	290	295	4934
cag ccg tgg aac cgg tac tgg gcc ttc cag ttc ctc gaa tcg ggg ttc Gln Pro Trp Asn Arg Tyr Trp Ala Phe Gln Phe Leu Glu Ser Gly Phe	300	305	310	4982
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cag cgg cgg ccc agc Gln Arg Arg Pro Ser	335			
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 Gly Phe Glu Ala Leu Val Leu Thr Val Asp Ala Pro Arg Leu Gly Arg
 155 160 165

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 40 45 50

atg ggc gag gcc gag agc gcc cgg ctg cgg ttc cgc gtg atc gac ggt 16086
 Met Gly Glu Ala Glu Ser Ala Arg Leu Arg Phe Arg Val Ile Asp Gly
 55 60 65

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acg	ccg	tgg	cag	tac	gtc	gcc	gag	gac	ggc	gac	gac	ccg	atc	cag	gtc	16134
Thr	Pro	Trp	Gln	Tyr	Val	Ala	Glu	Asp	Gly	Asp	Asp	Pro	Ile	Gln	Val	
70					75					80					85	
gtg	gac	ctc	ggc	gcg	gcc	gcg	gac	ccg	cgc	gcc	gcg	gcg	ctg	ggc	cgc	16182
Val	Asp	Leu	Gly	Ala	Ala	Ala	Asp	Pro	Arg	Ala	Ala	Ala	Leu	Gly	Arg	
			90						95					100		
atg	gcg	gcc	gac	ctc	gac	cgg	ccc	ggc	gac	ctg	cgc	gac	ggc	ccg	ctc	16230
Met	Ala	Ala	Asp	Leu	Asp	Arg	Pro	Gly	Asp	Leu	Arg	Asp	Gly	Pro	Leu	
			105					110					115			
gtc	gag	cac	cac	gtc	tac	ctg	ctc	ggc	gag	ggc	cgg	gtc	atc	tgg	tac	16278
Val	Glu	His	His	Val	Tyr	Leu	Leu	Gly	Glu	Gly	Arg	Val	Ile	Trp	Tyr	
		120					125					130				
cac	cgc	gcg	cac	cac	atc	gtc	tgc	gac	ggc	ggc	agc	ctc	ggc	att	gtc	16326
His	Arg	Ala	His	His	Ile	Val	Cys	Asp	Gly	Gly	Ser	Leu	Gly	Ile	Val	
	135					140					145					
gcc	tcc	cgg	gtg	gcc	ggc	gtc	tat	tcc	gcg	ctc	gcg	gcc	ggg	ggg	gac	16374
Ala	Ser	Arg	Val	Ala	Gly	Val	Tyr	Ser	Ala	Leu	Ala	Ala	Gly	Gly	Asp	
150					155					160					165	
gtc	cgg	ccg	ggg	gcg	ctg	ccg	ccg	ctg	tgc	gtg	ttg	ctg	tgc	gcc	gcc	16422
Val	Arg	Pro	Gly	Ala	Leu	Pro	Pro	Leu	Ser	Val	Leu	Leu	Ser	Ala	Ala	
				170					175					180		
gac	gcc	tac	gag	cgc	tcc	ggc	gac	cgc	gac	cgg	gac	cgc	gag	cac	tgg	16470
Asp	Ala	Tyr	Glu	Arg	Ser	Gly	Asp	Arg	Asp	Arg	Asp	Arg	Glu	His	Trp	
			185					190					195			
cgc	tcc	gcg	ctg	gcg	ggc	ctg	ccc	gcc	gag	ctg	ctc	gcg	ggc	gcg	ggc	16518
Arg	Ser	Ala	Leu	Ala	Gly	Leu	Pro	Ala	Glu	Leu	Leu	Ala	Gly	Ala	Gly	
		200					205					210				
cgg	ccg	cgg	ccg	ctg	ccc	gga	ccg	ccg	gtg	cgc	cac	gag	cac	gac	ctc	16566
Arg	Pro	Arg	Pro	Leu	Pro	Gly	Pro	Pro	Val	Arg	His	Glu	His	Asp	Leu	
		215				220					225					
tcc	gcg	gcg	gag	gcg	ggc	cgg	ctg	cgc	gcg	ggg	gcg	cgg	cgg	ctg	cgg	16614
Ser	Ala	Ala	Glu	Ala	Gly	Arg	Leu	Arg	Ala	Gly	Ala	Arg	Arg	Leu	Arg	
230					235					240				245		
acc	agc	gtg	gcg	cag	gcc	ggc	atc	gcg	gcc	gcg	gcc	ctc	tac	cag	cac	16662
Thr	Ser	Val	Ala	Gln	Ala	Gly	Ile	Ala	Ala	Ala	Ala	Leu	Tyr	Gln	His	
				250				255						260		
cgg	ctc	acc	ggc	gcc	cgg	gac	gtg	ctg	gtg	gcg	gtg	ccc	gtc	gcc	ggc	16710
Arg	Leu	Thr	Gly	Ala	Arg	Asp	Val	Leu	Val	Ala	Val	Pro	Val	Ala	Gly	
			265				270						275			
cgc	acc	acc	cgc	ccg	gag	ttc	gac	gtg	ccc	ggc	atg	acg	tgc	aac	gtg	16758
Arg	Thr	Thr	Arg	Pro	Glu	Phe	Asp	Val	Pro	Gly	Met	Thr	Ser	Asn	Val	
			280				285					290				
gtg	ccg	gtg	cgc	ctc	gcg	gtc	acg	ccc	gcc	acg	acc	gtc	ggc	gag	ctg	16806
Val	Pro	Val	Arg	Leu	Ala	Val	Thr	Pro	Ala	Thr	Thr	Val	Gly	Glu	Leu	
	295					300					305					
ctg	cgc	gac	gtc	gcc	cgt	ggg	gtc	cgc	gac	ggc	ctg	cgg	cac	cag	cgg	16854
Leu	Arg	Asp	Val	Ala	Arg	Gly	Val	Arg	Asp	Gly	Leu	Arg	His	Gln	Arg	
310					315					320					325	

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tac	ccg	tac	ccg	aac	atc	gtg	gac	gac	ctc	ggc	ctg	gcc	gac	cgt	gcc	16902
Tyr	Pro	Tyr	Pro	Asn	Ile	Val	Asp	Asp	Leu	Gly	Leu	Ala	Asp	Arg	Ala	
				330					335					340		
gcg	ctg	cgc	ccg	gtg	acc	gtc	aac	gcc	ctg	gcg	ctg	gga	cgg	ccg	ctg	16950
Ala	Leu	Arg	Pro	Val	Thr	Val	Asn	Ala	Leu	Ala	Leu	Gly	Arg	Pro	Leu	
			345					350					355			
cgc	ttc	ggc	tcg	gcg	gtg	ggg	gtg	cgc	tcc	ggc	ctg	tcg	gcg	ggc	ccg	16998
Arg	Phe	Gly	Ser	Ala	Val	Gly	Val	Arg	Ser	Gly	Leu	Ser	Ala	Gly	Pro	
		360					365					370				
gtg	gac	gac	gtc	acc	atc	ggc	ctc	tac	gaa	aag	gtc	agc	ggc	ggc	ggc	17046
Val	Asp	Asp	Val	Thr	Ile	Gly	Leu	Tyr	Glu	Lys	Val	Ser	Gly	Gly	Gly	
	375					380					385					
atg	cag	acg	atc	gcc	gag	ctg	aac	ccc	ggg	cgc	acg	gac	cgc	ccg	gac	17094
Met	Gln	Thr	Ile	Ala	Glu	Leu	Asn	Pro	Gly	Arg	Thr	Asp	Arg	Pro	Asp	
	390				395					400					405	
gcg	gcg	gag	gtc	tcc	cgc	tgg	ttc	cgt	acg	ctg	ctg	cgc	ggg	ctg	gcc	17142
Ala	Ala	Glu	Val	Ser	Arg	Trp	Phe	Arg	Thr	Leu	Leu	Arg	Gly	Leu	Ala	
				410				415						420		
gag	agc	gac	gcc	ggc	gac	ccg	gtg	gcc	cgc	atc	gac	atc	gtc	gac	gag	17190
Glu	Ser	Asp	Ala	Gly	Asp	Pro	Val	Ala	Arg	Ile	Asp	Ile	Val	Asp	Glu	
			425					430					435			
ccc	gag	cgc	cgc	ccg	ctg	ctg	gac	gag	tgg	aac	gcc	acc	gcg	gcg	ccg	17238
Pro	Glu	Arg	Arg	Arg	Leu	Leu	Asp	Glu	Trp	Asn	Ala	Thr	Ala	Ala	Pro	
		440					445					450				
tcg	agc	gac	acc	gtc	ctc	gcg	cgt	ttc	gag	gag	cag	gcg	gcg	cgt	acg	17286
Ser	Ser	Asp	Thr	Val	Leu	Ala	Arg	Phe	Glu	Glu	Gln	Ala	Ala	Arg	Thr	
	455					460					465					
ccc	gag	gcg	ccc	gcc	gtc	gtc	tgc	ggc	gac	gtg	acg	gtc	acc	tac	gcc	17334
Pro	Glu	Ala	Pro	Ala	Val	Val	Cys	Gly	Asp	Val	Thr	Val	Thr	Tyr	Ala	
	470				475					480					485	
gag	ctg	gag	gcc	ggc	gcc	aac	ccg	ctc	gcc	cgc	gtc	ctt	cgc	gcg	cgc	17382
Glu	Leu	Glu	Ala	Gly	Ala	Asn	Arg	Leu	Ala	Arg	Val	Leu	Arg	Ala	Arg	
			490						495					500		
ggc	gcc	gga	ccg	gag	tcg	gtc	gtg	gcc	ctc	tgc	ctg	ccc	cgc	ggc	ccc	17430
Gly	Ala	Gly	Pro	Glu	Ser	Val	Val	Ala	Leu	Cys	Leu	Pro	Arg	Gly	Pro	
			505					510					515			
gag	gtc	gtg	acc	ggc	atc	ctc	gcc	gcc	tgg	aag	gcg	ggc	gcc	gcc	tac	17478
Glu	Val	Val	Thr	Gly	Ile	Leu	Ala	Ala	Trp	Lys	Ala	Gly	Ala	Ala	Tyr	
		520					525					530				
ctg	ccg	gtc	gac	acc	gaa	ctg	ccg	gcc	gag	cgc	gtc	gcc	tat	ctg	ctc	17526
Leu	Pro	Val	Asp	Thr	Glu	Leu	Pro	Ala	Glu	Arg	Val	Ala	Tyr	Leu	Leu	
	535					540					545					
ggc	gac	agc	gcc	gcc	gcc	gtc	cgc	ctc	ggc	acc	gcc	gag	acg	ctc	gcc	17574
Gly	Asp	Ser	Ala	Ala	Ala	Val	Arg	Leu	Gly	Thr	Ala	Glu	Thr	Leu	Ala	
	550				555					560					565	
gcc	ctc	ccg	gac	ggc	ccc	gcc	gcc	gac	gtc	gac	gtc	cac	gca	ccg	gag	17622
Ala	Leu	Pro	Asp	Gly	Pro	Ala	Ala	Asp	Val	Asp	Val	His	Ala	Pro	Glu	
				570					575					580		

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atc gcc cgg gaa tcg ccc tcg ccc ctg cgg ctc gag ccc ttg ccg gat Ile Ala Arg Glu Ser Pro Ser Pro Leu Arg Leu Glu Pro Leu Pro Asp 585 590 595	17670
cag ttg gcg tat gtg att tat acg tcg ggt tcg acg ggg ttg agc aag Gln Leu Ala Tyr Val Ile Tyr Thr Ser Gly Ser Thr Gly Leu Ser Lys 600 605 610	17718
ggg gtc ggt gtt tcg cat ggt ggg ttg gcg aat tat gtg ggt tgg gcg Gly Val Gly Val Ser His Gly Gly Leu Ala Asn Tyr Val Gly Trp Ala 615 620 625	17766
tcg gtt ttg tat ggg ggt ttg tcg gcg ccg ttg cat tct tcg ttg gct Ser Val Leu Tyr Gly Gly Leu Ser Ala Pro Leu His Ser Ser Leu Ala 630 635 640 645	17814
ttt gat ttg acg gtg acg agt gtt ttt gtg ccg ttg gtg tgt ggt ggt Phe Asp Leu Thr Val Thr Ser Val Phe Val Pro Leu Val Cys Gly Gly 650 655 660	17862
tcg gtg gtg gtg tcg gcg gcc ggt ggt ggt ccg ggt ttg gcg tcg ttg Ser Val Val Val Ser Ala Ala Gly Gly Gly Arg Gly Leu Ala Ser Leu 665 670 675	17910
ttg gcg gct ggt gat ggt ttt tcg ttg gtg aag gtg gtg ccg ggt cat Leu Ala Ala Gly Asp Gly Phe Ser Leu Val Lys Val Val Pro Gly His 680 685 690	17958
ttg cgt ttg ctg gcg gag ttg gtg ccg gcg ggt gag atg gcg gcg gtg Leu Arg Leu Leu Ala Glu Leu Val Pro Ala Gly Glu Met Ala Ala Val 695 700 705	18006
ggg tcg ttg gtg gcc ggt ggt gag gtt ttg gcc ggt ggt gat gtg cgt Gly Ser Leu Val Ala Gly Gly Glu Val Leu Ala Gly Gly Asp Val Arg 710 715 720 725	18054
gag tgg ttg tcg cgg gtg ccg ggt tcg gtg gtg gtg aat gag tac ggg Glu Trp Leu Ser Arg Val Pro Gly Ser Val Val Val Asn Glu Tyr Gly 730 735 740	18102
ccg acg gag acc gtg gtg ggt tgt tcg gtt ttc tcg gtg gcc gcg ggt Pro Thr Glu Thr Val Val Gly Cys Ser Val Phe Ser Val Ala Ala Gly 745 750 755	18150
gat gtg gtt ggt gat gtg gtg ccg gtt ggc cgg ccg gtg gcg aat acg Asp Val Val Gly Asp Val Val Pro Val Gly Arg Pro Val Ala Asn Thr 760 765 770	18198
cgt ttg ttt gtt ttg gat gag ggt ttg cgg ccg gtt ccg gct ggg gtg Arg Leu Phe Val Leu Asp Glu Gly Leu Arg Pro Val Pro Ala Gly Val 775 780 785	18246
gcg ggt gag ttg tat gtg gct ggt tcg cag gtg gcg ccg ggt tat gtg Ala Gly Glu Leu Tyr Val Ala Gly Ser Gln Val Ala Arg Gly Tyr Val 790 795 800 805	18294
ggg cgt tct ggt ttg acg gct tcg cgt ttt gtg gcg tgt ccg ttc ggt Gly Arg Ser Gly Leu Thr Ala Ser Arg Phe Val Ala Cys Pro Phe Gly 810 815 820	18342
gtg ggt gag cgg atg tat cgc acg ggt gat gtg gtg ccg ttg gcc ggt Val Gly Glu Arg Met Tyr Arg Thr Gly Asp Val Val Arg Leu Ala Gly 825 830 835	18390

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ggt gat ctg gtg ttt gtg ggc cgg gtc gat gag cag gtg aag att cgt	18438
Gly Asp Leu Val Phe Val Gly Arg Val Asp Glu Gln Val Lys Ile Arg	
840 845 850	
ggt tat cgg gtg gag ccg gat gag gtg cgg ttg gtg gtg gcg ggg cat	18486
Gly Tyr Arg Val Glu Pro Asp Glu Val Arg Leu Val Val Ala Gly His	
855 860 865	
ccg cgg gta gcg ggt gcg gcg gtg gtg gct cgg ccg gat gcg gtg ggt	18534
Pro Arg Val Ala Gly Ala Ala Val Val Ala Arg Pro Asp Ala Val Gly	
870 875 880 885	
gag cgg cag ttg gtg gcc tat gtg gtc gct gcc ggt gag ccg gcc ggg	18582
Glu Arg Gln Leu Val Ala Tyr Val Val Ala Ala Gly Glu Pro Ala Gly	
890 895 900	
ttg gcg gag tcg gta cgc gcc cac gtc gcc gag cgc ctg ccc gaa tac	18630
Leu Ala Glu Ser Val Arg Ala His Val Ala Glu Arg Leu Pro Glu Tyr	
905 910 915	
atg gtc ccg gcc gcc gtc gtg acc ctc gac gag atc ccg ctg acc gtg	18678
Met Val Pro Ala Ala Val Val Thr Leu Asp Glu Ile Pro Leu Thr Val	
920 925 930	
aac ggc aag gtc gac cgc gcc gcc ctg ccc gag ccc ggc ccc gtc gcc	18726
Asn Gly Lys Val Asp Arg Ala Ala Leu Pro Glu Pro Gly Pro Val Ala	
935 940 945	
acc ggc aac gcc gac cgc gag ccc acg acc gag cgc gaa tcg ctg ctc	18774
Thr Gly Asn Ala Asp Arg Glu Pro Thr Thr Glu Arg Glu Ser Leu Leu	
950 955 960 965	
tgc ggc gcc ttc gcc gac gtg ctc ggc atc gag cgg gtc ggc gtc gac	18822
Cys Gly Ala Phe Ala Asp Val Leu Gly Ile Glu Arg Val Gly Val Asp	
970 975 980	
gac gac ttc ttc agc ctc ggc ggc cat tcc ctg ctc gcc acc agc ctg	18870
Asp Asp Phe Phe Ser Leu Gly Gly His Ser Leu Leu Ala Thr Ser Leu	
985 990 995	
gtg agc cgg gta cgc ctc gtg ctc ggt gag gaa ctg ccc atc gag	18915
Val Ser Arg Val Arg Leu Val Leu Gly Glu Glu Leu Pro Ile Glu	
1000 1005 1010	
gag ctc ttc gcc acg ccc acc ccc gcc gag ctg gcg gcc tgg ctg	18960
Glu Leu Phe Ala Thr Pro Thr Pro Ala Glu Leu Ala Ala Trp Leu	
1015 1020 1025	
caa cgc aac gcg gac cgg ccg caa ccg gcc cgg ccg gcg ctg cgc	19005
Gln Arg Asn Ala Asp Arg Pro Gln Pro Ala Arg Pro Ala Leu Arg	
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ccg atg cac gaa agg gaa acg acc gca	
Pro Met His Glu Arg Glu Thr Thr Ala	
1045 1050	
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ggttccagct gcgggtcgag ggccccgacg ccacgtacaa cagtcccgcc gtccctgcgcc	19125
tcaccggcga gctcgacacc gccgcctgg agcacgcgt gcgcgacgtc ctccaacggc	19185

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tcagccggat	ccgctcggcg	ctgggcgtgg	aggtcaccat	ccgcgcgctc	ttcgagacgc	36465

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tcaccccgca	acggctggcc	gcccggctga	cccgcgcctc	ggcaccggg	cggtgcgac	36525
ccgcgcgag	gacacggccg	gagcggatc	cgctgtcctt	cgcgcaacgg	cgctgtggt	36585
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gcgcggcgcc	gccggcgcca	ccggcggtgg	tcgagctgga	cgaccggcg	accgcggccg	38325
agatcgccga	tgccgaaccg	gagccgcgg	tcgcggtgcg	gccacccac	tccgcctacc	38385

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tgatctacac ctctgggctcg accggggcggc ccaagggcgt cgtgggtcacc caccgggggtg 38445
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 tgcagttcgc cagcgtgggc ttgcagcct cgatctggga gatggtgatg gccctgtgcg 38565
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 ccacgctgtc cggggcacggc gtgaccacac cgacctgtc gccggccggt ctcgcgcggt 38685
 ccgcgcccgg cgatctcgcg ccgctcgcgg tgcgtggtctc ggccgggtgag gcgctcgggc 38745
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 agaccacggt gtgcgccacg gcgtccgccc cgctcggccc ggaggatccc ccgcacatcg 38865
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 ccgggggtcac cggcgagctg tacgtctcgg gggcgctcgt ggcccgcgga tatgccggtc 38985
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 agtcctg

atg atc 39718
 Met Ile
 1

ccc ctg tgc ttc gcg cag cgc cgc ctg tgg ttc ctc ggc cgg ctc gag 39766
 Pro Leu Ser Phe Ala Gln Arg Arg Leu Trp Phe Leu Gly Arg Leu Glu
 5 10 15
 ggg ccc tcc gcc acc tac aac atc ccg ctc gtg ctg ggc ctg acc ggc 39814
 Gly Pro Ser Ala Thr Tyr Asn Ile Pro Leu Val Leu Gly Leu Thr Gly
 20 25 30
 acc gtc gac gcc gcc gcc ctc gaa acc gcc ctg cgc gac gtg ctg gag 39862
 Thr Val Asp Ala Ala Ala Leu Glu Thr Ala Leu Arg Asp Val Leu Glu
 35 40 45 50
 cgg cac gag gtg ctg cgt acc gtc tat ccg gac gcc ggc ggc gag ccg 39910

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Arg	His	Glu	Val	Leu	Arg	Thr	Val	Tyr	Pro	Asp	Ala	Gly	Gly	Glu	Pro	
				55					60					65		
cac	cag	cgg	atc	ctg	ccg	ctc	ggc	gag	acc	ggc	ttc	ggc	ctg	cgg	gtc	39958
His	Gln	Arg	Ile	Leu	Pro	Leu	Gly	Glu	Thr	Gly	Phe	Gly	Leu	Arg	Val	
			70					75					80			
gcc	gag	gtg	acg	gac	ggc	gag	ctg	gac	gcg	gcc	gtc	gcg	gac	gcc	acc	40006
Ala	Glu	Val	Thr	Asp	Gly	Glu	Leu	Asp	Ala	Ala	Val	Ala	Asp	Ala	Thr	
		85					90					95				
ggg	cac	gcc	ttc	gac	ctc	gcg	acc	gag	atc	ccg	gtc	cgg	gcc	tcg	ctg	40054
Gly	His	Ala	Phe	Asp	Leu	Ala	Thr	Glu	Ile	Pro	Val	Arg	Ala	Ser	Leu	
	100					105					110					
ctc	acc	gtc	gag	ccg	ggc	cgg	cac	gtc	ctg	gcg	ctg	gtg	ctg	cac	cac	40102
Leu	Thr	Val	Glu	Pro	Gly	Arg	His	Val	Leu	Ala	Leu	Val	Leu	His	His	
115					120					125					130	
atc	gcg	gcc	gac	ggc	tgg	tcg	atg	ggg	ccg	ctg	ctg	cgc	gac	ctg	tcc	40150
Ile	Ala	Ala	Asp	Gly	Trp	Ser	Met	Gly	Pro	Leu	Leu	Arg	Asp	Leu	Ser	
				135					140					145		
acc	gcg	tac	acg	gcc	cgg	ctg	gcc	ggc	ggg	gaa	ccg	gcc	tgg	tcg	ccg	40198
Thr	Ala	Tyr	Thr	Ala	Arg	Leu	Ala	Gly	Gly	Glu	Pro	Ala	Trp	Ser	Pro	
			150					155					160			
ctg	ccg	gtc	cag	tac	gcg	gac	tac	gcg	ctg	tgg	cag	cag	gag	gtg	ctc	40246
Leu	Pro	Val	Gln	Tyr	Ala	Asp	Tyr	Ala	Leu	Trp	Gln	Gln	Glu	Val	Leu	
		165					170					175				
ggc	gcc	ggt	gac	gac	ccg	gag	agc	ctc	ctg	cgc	gag	cag	gtc	ggc	tat	40294
Gly	Ala	Gly	Asp	Asp	Pro	Glu	Ser	Leu	Leu	Arg	Glu	Gln	Val	Gly	Tyr	
	180					185					190					
tgg	cgg	tcg	gcg	ctc	gcc	gga	gcc	ccc	gag	gag	ctg	cgc	ctg	ccg	gcc	40342
Trp	Arg	Ser	Ala	Leu	Ala	Gly	Ala	Pro	Glu	Glu	Leu	Arg	Leu	Pro	Ala	
195					200				205						210	
gac	cac	cgg	cgc	ccg	ccc	gtg	tcg	tcg	tcc	cgg	gcg	cac	atg	gcc	gag	40390
Asp	His	Arg	Arg	Pro	Pro	Val	Ser	Ser	Ser	Arg	Ala	His	Met	Ala	Glu	
				215					220					225		
ttc	gcc	gtg	ccg	gcc	gcc	gcc	cac	ggc	gac	ctg	acc	gcc	ctc	acc	cgc	40438
Phe	Ala	Val	Pro	Ala	Ala	Ala	His	Gly	Asp	Leu	Thr	Ala	Leu	Thr	Arg	
			230					235					240			
gag	ctc	ggc	gcc	acg	ctc	ttc	atg	gcc	gtg	cac	gcg	gcg	acc	gcc	atg	40486
Glu	Leu	Gly	Ala	Thr	Leu	Phe	Met	Ala	Val	His	Ala	Ala	Thr	Ala	Met	
		245					250					255				
gtg	ctt	tcc	ggg	ctg	ggc	gcg	ggc	gac	gac	ctg	ccg	atc	ggc	acg	gtg	40534
Val	Leu	Ser	Gly	Leu	Gly	Ala	Gly	Asp	Asp	Leu	Pro	Ile	Gly	Thr	Val	
	260				265						270					
gtg	gcc	ggc	cgc	acc	gac	gcc	ggc	ctc	gac	gac	ctc	gtc	ggc	tgc	ttc	40582
Val	Ala	Gly	Arg	Thr	Asp	Ala	Gly	Leu	Asp	Asp	Leu	Val	Gly	Cys	Phe	
	275				280				285						290	
gtc	aac	aac	ctg	gtg	atc	cgg	gcc	gac	ctg	acc	ggc	gac	ccg	acc	ttc	40630
Val	Asn	Asn	Leu	Val	Ile	Arg	Ala	Asp	Leu	Thr	Gly	Asp	Pro	Thr	Phe	
				295					300					305		
gcg	gac	ctg	ctg	cgg	cag	gtc	cgc	gag	cgg	gcc	ctc	gac	gcg	tac	ggc	40678

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Ala	Asp	Leu	Leu	Arg	Gln	Val	Arg	Glu	Arg	Ala	Leu	Asp	Ala	Tyr	Gly	
			310					315					320			
cac	cag	gac	gtg	ccg	ttc	gag	aag	ctc	gtc	gag	gag	ctc	gcg	ccg	tcg	40726
His	Gln	Asp	Val	Pro	Phe	Glu	Lys	Leu	Val	Glu	Glu	Leu	Ala	Pro	Ser	
			325				330					335				
cgg	tcg	ctg	agc	cgc	cac	ccg	ctg	ttc	cag	gtg	gcc	gtc	gcc	gtg	gag	40774
Arg	Ser	Leu	Ser	Arg	His	Pro	Leu	Phe	Gln	Val	Ala	Val	Ala	Val	Glu	
			340				345					350				
acc	gac	gac	ctg	atc	ggc	ggg	cgc	ggc	ggc	ggg	ccc	gcc	ctg	cgg	ctg	40822
Thr	Asp	Asp	Leu	Ile	Gly	Gly	Arg	Gly	Gly	Gly	Pro	Ala	Leu	Arg	Leu	
			355		360					365					370	
ccc	ggc	ctc	ggc	atc	gag	gtg	ctg	ccc	ggc	gag	ccc	tcc	gct	cgc	gac	40870
Pro	Gly	Leu	Gly	Ile	Glu	Val	Leu	Pro	Gly	Glu	Pro	Ser	Ala	Arg	Asp	
				375					380					385		
ctc	gac	ctc	gac	ctg	gtg	gtg	cgc	gag	acg	ttc	gac	gcc	gag	gga	cgc	40918
Leu	Asp	Leu	Asp	Leu	Val	Val	Arg	Glu	Thr	Phe	Asp	Ala	Glu	Gly	Arg	
			390					395					400			
ccc	gcc	ggg	ctc	acc	ggg	gca	ctg	atc	ggc	gcg	gcc	ggc	ctg	ttc	gac	40966
Pro	Ala	Gly	Leu	Thr	Gly	Ala	Leu	Ile	Gly	Ala	Ala	Gly	Leu	Phe	Asp	
		405					410					415				
gcc	gcg	tcg	gtg	gag	cgg	ctg	gcc	gcg	ctg	ctg	gcc	cgc	gcg	ctc	gag	41014
Ala	Ala	Ser	Val	Glu	Arg	Leu	Ala	Ala	Leu	Leu	Ala	Arg	Ala	Leu	Glu	
			420			425					430					
gcg	ctg	gcc	gcc	gac	ccg	cgc	acg	cgc	gcc	ggc	gac	ctc	gac	ctg	ctc	41062
Ala	Leu	Ala	Ala	Asp	Pro	Arg	Thr	Arg	Ala	Gly	Asp	Leu	Asp	Leu	Leu	
			435		440					445				450		
tcc	ccg	gcg	gac	cgc	cgg	ctg	atc	ctg	cgc	ggc	tgg	aac	gac	acc	gcg	41110
Ser	Pro	Ala	Asp	Arg	Arg	Leu	Ile	Leu	Arg	Gly	Trp	Asn	Asp	Thr	Ala	
				455				460						465		
gct	ccg	gcg	ccg	gcc	gga	ctg	gtg	ccg	gac	ctg	ttc	gcc	gcc	cag	gcc	41158
Ala	Pro	Ala	Pro	Ala	Gly	Leu	Val	Pro	Asp	Leu	Phe	Ala	Ala	Gln	Ala	
			470					475					480			
gcg	cgc	acc	ccg	gac	gcg	gtc	gcg	gtc	gcc	ggg	ccc	gac	cgg	gag	ctg	41206
Ala	Arg	Thr	Pro	Asp	Ala	Val	Ala	Val	Ala	Gly	Pro	Asp	Arg	Glu	Leu	
		485				490					495					
acc	tat	gcc	gag	ctg	gac	gag	cgc	tcc	ggc	cgc	ctc	gcg	cgc	tgg	ctg	41254
Thr	Tyr	Ala	Glu	Leu	Asp	Glu	Arg	Ser	Gly	Arg	Leu	Ala	Arg	Trp	Leu	
		500				505					510					
atc	cgg	cgc	ggg	gtc	gcc	gcc	gac	acc	cgg	gtc	gcg	ctg	gtg	ctg	gag	41302
Ile	Arg	Arg	Gly	Val	Ala	Ala	Asp	Thr	Arg	Val	Ala	Leu	Val	Leu	Glu	
			515		520					525					530	
cgc	tcc	gcg	gag	ctg	ccg	gtg	gcg	atc	ctc	gcc	gtg	ctc	aag	gcc	ggc	41350
Arg	Ser	Ala	Glu	Leu	Pro	Val	Ala	Ile	Leu	Ala	Val	Leu	Lys	Ala	Gly	
				535				540						545		
ggc	gcg	tat	ctg	ccg	atc	gat	ccg	gcg	cag	ccg	ccg	cgc	cgc	atc	gcc	41398
Gly	Ala	Tyr	Leu	Pro	Ile	Asp	Pro	Ala	Gln	Pro	Pro	Arg	Arg	Ile	Ala	
			550				555						560			
gac	atc	gtg	gcc	gac	gcc	gcc	ccg	gcg	ctc	gtg	ctg	gcc	cag	gcg	tcc	41446

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Asp	Ile	Val	Ala	Asp	Ala	Ala	Pro	Ala	Leu	Val	Leu	Ala	Gln	Ala	Ser	
		565					570					575				
acc	gcc	gac	gtc	gtg	gcc	gac	gcc	tct	ccg	gcg	ctc	gtg	ctg	gcc	ccg	41494
Thr	Ala	Asp	Val	Val	Ala	Asp	Ala	Ser	Pro	Ala	Leu	Val	Leu	Ala	Pro	
		580					585				590					
gcg	tcc	gac	ggg	gtg	ccc	acc	ggc	gcc	gtg	ccc	gtg	cac	ctg	ctc	gac	41542
Ala	Ser	Asp	Gly	Val	Pro	Thr	Gly	Ala	Val	Pro	Val	His	Leu	Leu	Asp	
		595			600					605					610	
tcg	ccc	gcc	gtg	cgt	gac	gag	gtc	gcg	cag	tgc	ccg	gcc	ggg	gcc	gtg	41590
Ser	Pro	Ala	Val	Arg	Asp	Glu	Val	Ala	Gln	Cys	Pro	Ala	Gly	Ala	Val	
				615					620					625		
acc	gac	gcc	gac	cgg	cgg	ggc	gtc	ctg	ctc	ggc	ggg	cac	gcg	gcc	tac	41638
Thr	Asp	Ala	Asp	Arg	Arg	Gly	Val	Leu	Leu	Gly	Gly	His	Ala	Ala	Tyr	
			630					635					640			
gtc	atc	tac	acc	tcg	gga	tcg	acc	gga	cgc	ccc	aag	ggg	gtc	gtc	gtt	41686
Val	Ile	Tyr	Thr	Ser	Gly	Ser	Thr	Gly	Arg	Pro	Lys	Gly	Val	Val	Val	
		645					650					655				
tcg	cac	gac	gcg	ttc	gcg	aac	ctc	gtc	ctg	gac	cag	cgc	cgg	ctc	ggc	41734
Ser	His	Asp	Ala	Phe	Ala	Asn	Leu	Val	Leu	Asp	Gln	Arg	Arg	Leu	Gly	
		660				665					670					
atc	ggg	ccg	ggc	agc	cgg	gtg	gcg	cag	ttc	gcc	tcg	ccg	ggc	ttc	gac	41782
Ile	Gly	Pro	Gly	Ser	Arg	Val	Ala	Gln	Phe	Ala	Ser	Pro	Gly	Phe	Asp	
					680					685					690	
atg	ttc	gtc	gac	gag	tgg	tcg	atg	gcg	ctg	ctc	gcc	ggc	gcc	gcc	ctc	41830
Met	Phe	Val	Asp	Glu	Trp	Ser	Met	Ala	Leu	Leu	Ala	Gly	Ala	Ala	Leu	
				695					700					705		
gtg	atc	gtg	ccg	ccg	gag	cgc	cgg	ctc	ggc	gcg	gac	ctc	gcc	gcg	ttc	41878
Val	Ile	Val	Pro	Pro	Glu	Arg	Arg	Leu	Gly	Ala	Asp	Leu	Ala	Ala	Phe	
			710					715					720			
ctc	acc	gag	cgc	ggg	gtc	acc	cac	gcc	acg	ctg	ccg	ccg	gcg	gtg	gtg	41926
Leu	Thr	Glu	Arg	Gly	Val	Thr	His	Ala	Thr	Leu	Pro	Pro	Ala	Val	Val	
			725				730					735				
gcg	acg	ctg	ccg	gag	gag	tcg	ctg	cca	cgc	tcg	ttc	gtg	ctg	gac	atc	41974
Ala	Thr	Leu	Pro	Glu	Glu	Ser	Leu	Pro	Arg	Ser	Phe	Val	Leu	Asp	Ile	
						745					750					
ggc	ggc	gac	gcg	ctg	ccg	gac	gac	ctg	gcc	cgc	cgg	tgg	ctg	cgc	gac	42022
Gly	Gly	Asp	Ala	Leu	Pro	Asp	Asp	Leu	Ala	Arg	Arg	Trp	Leu	Arg	Asp	
					760					765					770	
ggc	cgg	tgg	ctg	ggc	aac	tcg	tac	ggc	ccg	acg	gag	acc	acg	gtc	aac	42070
Gly	Arg	Trp	Leu	Gly	Asn	Ser	Tyr	Gly	Pro	Thr	Glu	Thr	Thr	Val	Asn	
				775					780					785		
gcg	gcg	acg	tgg	cgc	tgc	gag	ccc	ggc	acc	tgg	gag	ggc	gcg	acc	ccg	42118
Ala	Ala	Thr	Trp	Arg	Cys	Glu	Pro	Gly	Thr	Trp	Glu	Gly	Ala	Thr	Pro	
				790				795					800			
atc	ggc	cgg	ccg	gtc	gcc	aac	ctg	cgg	gcg	tac	gtg	ctc	gac	ggc	cgc	42166
Ile	Gly	Arg	Pro	Val	Ala	Asn	Leu	Arg	Ala	Tyr	Val	Leu	Asp	Gly	Arg	
		805					810					815				
ctg	cgg	ccg	gtg	ccg	gtg	ggc	gtg	gag	ggc	gag	ctg	tac	gtc	tcg	ggc	42214

APPENDIX A

Leu	Arg	Pro	Val	Pro	Val	Gly	Val	Glu	Gly	Glu	Leu	Tyr	Val	Ser	Gly	
820						825					830					
gcc	ggc	ctc	gcc	cgc	ggc	tat	ctg	aac	cgg	gcc	ggc	ctg	acc	gcc	ggc	42262
Ala	Gly	Leu	Ala	Arg	Gly	Tyr	Leu	Asn	Arg	Ala	Gly	Leu	Thr	Ala	Gly	
835					840					845					850	
agc	ttc	gtg	gcc	tgc	ccg	ttc	gag	ccg	ggg	gag	cgg	atg	tac	cgc	acc	42310
Ser	Phe	Val	Ala	Cys	Pro	Phe	Glu	Pro	Gly	Glu	Arg	Met	Tyr	Arg	Thr	
				855					860					865		
ggc	gac	atc	gtg	cgc	tgg	gac	gcg	cgg	ggc	cgc	ctc	gtc	tac	gcc	ggc	42358
Gly	Asp	Ile	Val	Arg	Trp	Asp	Ala	Arg	Gly	Arg	Leu	Val	Tyr	Ala	Gly	
			870					875					880			
cgc	gcc	gac	gac	cag	gcg	aag	atc	cgc	ggg	ttc	cgg	gtc	gag	ccg	ggc	42406
Arg	Ala	Asp	Asp	Gln	Ala	Lys	Ile	Arg	Gly	Phe	Arg	Val	Glu	Pro	Gly	
			885				890						895			
gag	gtg	gag	gcc	gtg	ctg	gcc	gcc	ggg	ccg	ggc	gtg	aac	cag	gtc	gcg	42454
Glu	Val	Glu	Ala	Val	Leu	Ala	Ala	Gly	Pro	Gly	Val	Asn	Gln	Val	Ala	
	900					905					910					
gtg	atc	gtg	cgt	gag	gac	gtg	ccg	ggg	gac	aag	cgc	ttg	gtg	gcg	tac	42502
Val	Ile	Val	Arg	Glu	Asp	Val	Pro	Gly	Asp	Lys	Arg	Leu	Val	Ala	Tyr	
915					920					925					930	
gtc	gtg	ggc	ggc	gac	gtg	gag	acc	ctc	cgg	tcg	tac	gcg	cag	cag	cgg	42550
Val	Val	Gly	Gly	Asp	Val	Glu	Thr	Leu	Arg	Ser	Tyr	Ala	Gln	Gln	Arg	
				935					940					945		
ttg	ccc	gga	tac	ctc	gtg	ccg	tcc	gcg	atc	gtc	gcg	ctg	gcc	gag	ctg	42598
Leu	Pro	Gly	Tyr	Leu	Val	Pro	Ser	Ala	Ile	Val	Ala	Leu	Ala	Glu	Leu	
			950					955					960			
ccg	ctg	aca	ccg	agc	gcc	aag	gtg	gac	cgg	cgg	gct	ctg	ccg	gtg	ccg	42646
Pro	Leu	Thr	Pro	Ser	Ala	Lys	Val	Asp	Arg	Arg	Ala	Leu	Pro	Val	Pro	
		965					970					975				
gac	tac	ggc	cgg	gac	gcc	ggg	ggg	ggg	cgg	gcg	ccg	gcc	aac	gct	cgc	42694
Asp	Tyr	Gly	Arg	Asp	Ala	Gly	Gly	Gly	Arg	Ala	Pro	Ala	Asn	Ala	Arg	
	980					985					990					
gag	gaa	gtg	ttg	tgc	cgg	gcg	ttc	gcc	gag	gtg	ctc	ggc	gtc	gag		42739
Glu	Glu	Val	Leu	Cys	Arg	Ala	Phe	Ala	Glu	Val	Leu	Gly	Val	Glu		
995					1000					1005						
cgg	gtg	ggg	gtg	gag	gac	gat	ttc	ttc	gcg	ctg	ggg	ggg	cat	tcg		42784
Arg	Val	Gly	Val	Glu	Asp	Asp	Phe	Phe	Ala	Leu	Gly	Gly	His	Ser		
1010					1015					1020						
ctg	ctg	gtg	gtc	tcg	ctg	gtg	gag	cgg	ctg	cgc	cgg	cag	ggg	atc		42829
Leu	Leu	Val	Val	Ser	Leu	Val	Glu	Arg	Leu	Arg	Arg	Gln	Gly	Ile		
1025					1030					1035						
tcg	gtg	ccg	gtg	cgg	gcg	ttg	ttc	acc	acg	ccg	acc	ccg	gcc	ggg		42874
Ser	Val	Pro	Val	Arg	Ala	Leu	Phe	Thr	Thr	Pro	Thr	Pro	Ala	Gly		
1040					1045					1050						
ctg	gcc	gag	gcg	gtc	ggg	gat	ggg	gcc	gtg	gtg	gtg	ccg	ccg	aac		42919
Leu	Ala	Glu	Ala	Val	Gly	Asp	Gly	Ala	Val	Val	Val	Pro	Pro	Asn		
1055					1060					1065						
ctg	att	ccc	gag	ggg	gcg	gcg	gag	ctg	acc	ccg	gag	atg	ctg	ccg		42964

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Leu 1070	Ile	Pro	Glu	Gly	Ala 1075	Ala	Glu	Leu	Thr	Pro 1080	Glu	Met	Leu	Pro	
ctg Leu 1085	gcc Ala	gat Asp	ctg Leu	acc Thr	gcc Ala 1090	gac Asp	gaa Glu	ctt Leu	gct Ala	gtt Val 1095	gtc Val	gtg Val	gat Asp	tcg Ser	43009
gtg Val 1100	cct Pro	ggt Gly	ggt Gly	gcg Ala	gcg Ala 1105	aac Asn	atc Ile	gcg Ala	gat Asp	gtg Val 1110	tat Tyr	ccg Pro	ttg Leu	gcg Ala	43054
ccg Pro 1115	ttg Leu	cag Gln	gag Glu	ggc Gly	att Ile 1120	ttc Phe	ttc Phe	cat His	cac His	atg Met 1125	atg Met	gcc Ala	gac Asp	cgg Arg	43099
gat Asp 1130	tcg Ser	gcg Ala	gac Asp	gtg Val	tat Tyr 1135	gtg Val	acg Thr	ccg Pro	acg Thr	gtg Val 1140	gtg Val	gag Glu	ttc Phe	gac Asp	43144
tcc Ser 1145	cgg Arg	gac Asp	cgg Arg	ttg Leu	gac Asp 1150	ggc Gly	ttc Phe	ctg Leu	gcc Ala	gcc Ala 1155	ttg Leu	cag Gln	cag Gln	gtc Val	43189
gtc Val 1160	gac Asp	cgt Arg	acg Thr	gat Asp	gtg Val 1165	tat Tyr	cgg Arg	acg Thr	agt Ser	gtg Val 1170	gtg Val	tgg Trp	cag Gln	ggg Gly	43234
ctg Leu 1175	cgc Arg	gag Glu	ccg Pro	gtg Val	cag Gln 1180	gtg Val	gtg Val	tgg Trp	cgg Arg	cac His 1185	gcg Ala	cgc Arg	ctg Leu	ccc Pro	43279
gtc Val 1190	gac Asp	gag Glu	gtg Val	gtg Val	ctg Leu 1195	cgg Arg	gac Asp	gac Asp	ctc Leu	gac Asp 1200	ccg Pro	gtc Val	gag Glu	cag Gln	43324
ctg Leu 1205	aac Asn	gcg Ala	ctc Leu	ggc Gly	acg Thr 1210	gcc Ala	tgg Trp	atg Met	gac Asp	ctg Leu 1215	tcc Ser	gag Glu	gcg Ala	ccg Pro	43369
ctg Leu 1220	gtg Val	cag Gln	gcc Ala	gtc Val	gtc Val 1225	gcc Ala	gcc Ala	cgc Arg	ccc Pro	ggc Gly 1230	gat Asp	ccg Pro	cag Gln	cgc Arg	43414
tgg Trp 1235	ctc Leu	gcc Ala	gtg Val	ctg Leu	cgc Arg 1240	atc Ile	cac His	cac His	ctc Leu	gtg Val 1245	cag Gln	gac Asp	cac His	acc Thr	43459
gcc Ala 1250	ctc Leu	gac Asp	atc Ile	ctc Leu	ctc Leu 1255	gag Glu	gag Glu	ctg Leu	gcg Ala	gcg Ala 1260	tac Tyr	ctg Leu	gcc Ala	ggc Gly	43504
cgc Arg 1265	ggc Gly	ggc Gly	gac Asp	ctg Leu	ccc Pro 1270	gag Glu	ccg Pro	gtg Val	ccg Pro	ttc Phe 1275	cgc Arg	gag Glu	ttc Phe	gtc Val	43549
gcg Ala 1280	cac His	acc Thr	cgc Arg	ctc Leu	ggc Gly 1285	gtg Val	ccc Pro	cgc Arg	gag Glu	gag Glu 1290	cac His	gag Glu	cgc Arg	tac Tyr	43594
ttc Phe 1295	gcc Ala	ggg Gly	ttg Leu	ctc Leu	ggc Gly 1300	gac Asp	gtc Val	acc Thr	gag Glu	acc Thr 1305	acc Thr	gcg Ala	ccg Pro	tac Tyr	43639
ggg	ctc	ctc	gac	gtg	cac	agc	ggc	ggt	ctc	gcc	tcg	gcg	cag	gcc	43684

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Gly 1310	Leu	Leu	Asp	Val	His 1315	Ser	Gly	Gly	Leu	Ala 1320	Ser	Ala	Gln	Ala	
cac His 1325	ctg	cgg	ctg	gac	ggc Gly 1330	ccg	ctc	ggc	cgg	cgc Arg 1335	gtg	gcc	gcc	ttc	43729
gac Ala 1340	ctg	cgg	gaa	cac	ggc Val 1345	gtc	agc	ccg	gcg	acg	ctc	ttc	cac	ctc	gcg
tgg Trp 1355	gcg	cgg	gtg	ctc	ggc Gly 1360	acg	ctg	gcc	ggg	cgt	gac	gac	gtc	gtc	43774
ttc Phe 1370	ggc	acg	gtc	ctg	ttc Phe 1375	ggg	cgg	atg	aac	tgc	ggc	gcc	ggc	gcc	43819
gac Asp 1385	cgc	gtt	ccc	ggc	ctg Leu 1390	ttc	atc	aac	acg	ctg	ccg	gtg	cgg	gtg	43864
cgg Arg 1400	ctc	ggc	gcg	ccc	gtc Val 1405	ggc	gac	gcc	ctc	gac	ggc	ctg	cgt	gac	43909
cag Gln 1415	ctc	atc	gag	ctc	atc Ile 1420	gcc	cac	gag	cac	gcg	ccg	ctg	gcc	gtg	43954
gcc Ala 1430	cag	cag	gcc	gcg	aac Asn 1435	ctc	ttc	ggc	cgg	ccg	ctc	ttc	acc	tcc	43999
atc Ile 1445	ttc	aac	tat	cgg	tac Tyr 1450	gcc	cgg	ggg	gcc	gag	ccg	gcc	ggc	gcc	44044
gcg Ala 1460	ctc	gac	ggc	atc	cgc Arg 1465	ctg	ctc	tcc	gcc	cgc	gac	ctc	acc	aac	44089
tat Tyr 1475	ccg	ctg	gcg	gtg	gcc Ala 1480	gtc	gac	gcg	gag	ggc	gac	acc	ttc	tgc	44134
ctc Leu 1490	acc	gtc	gac	gcg	gtg Val 1495	gcg	ccg	gcc	gac	ccc	gtg	cag	gtc	ggc	44179
gag Glu 1505	ctg	ctc	gtc	acc	gcg Ala 1510	ctg	cgc	aac	ctg	acc	cgg	acc	gcc	gag	44224
aac Asn 1520	gcg	ccc	gga	acg	ccg Pro 1525	ctg	gcc	gcg	gtc	ggc	gtg	ctg	ggc	gag	44269
gac Asp 1535	gag	ctg	agc	cgg	gtc Val 1540	gtc	tcc	ggc	tgg	aac	gac	acc	gcc	cgc	44314
cgg	gtc	cgg	cag	gcg	tgc	gtg	ccc	gag	ctc	ttc	gcg	gag	cgg	gtg	44359
															44404

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Arg 1550	Val	Arg	Gln	Ala	Ser 1555	Val	Pro	Glu	Leu	Phe 1560	Ala	Glu	Arg	Val	
gcg 1565	gcc Ala	gcg Ala	ccc Pro	ggc Gly	gcg Ala 1570	ccg Pro	gcc Ala	gtc Val	gcc Ala	gcc Ala 1575	ggg Gly	gac Asp	ctg Leu	cgc Arg	44449
tgg 1580	acg Trp	tac Thr	gcg Tyr	gac Ala	ctc Leu 1585	gac Asp	gcc Ala	cgt Arg	tcc Ser	gac Asp 1590	gcg Ala	ctc Leu	gcg Ala	cgg Arg	44494
agc 1595	ctg Ser	gtg Leu	gcg Val	ggc Ala	ggg Gly 1600	gtg Val	acc Thr	gcg Ala	gag Glu	tgc Ser 1605	ccg Pro	gtc Val	gtc Val	gtc Val	44539
gcc 1610	ctc Ala	gag Leu	cgc Glu	tcc Arg	gcg Ser 1615	gac Asp	gtg Val	ctg Leu	acc Thr	gcg Ala 1620	ttc Phe	ctc Leu	gcc Ala	gtc Val	44584
gcg 1625	aag Ala	gcc Lys	ggc Ala	ggt Gly	gtc Val 1630	ttc Phe	gtc Val	ccg Pro	gtg Val	gac Asp 1635	ctc Leu	tcc Ser	tgg Trp	ccc Pro	44629
cgg 1640	gcc Arg	cgc Ala	gtc Arg	gac Val	ggc Ala 1645	gtg Val	atc Ile	gcc Ala	gac Asp	tgc Cys 1650	gcc Ala	gcc Ala	tgg Trp	atc Ile	44674
gcg 1655	gtg Ala	gcc Val	gac Ala	cgg Arg	ccg Pro 1660	atg Met	acc Thr	ggc Gly	ctg Leu	acc Thr 1665	gtc Val	gtg Val	ccc Pro	gcc Ala	44719
aac 1670	cgg Asn	gcc Arg	ggc Ala	gat Gly	ccc Pro 1675	gcg Ala	gtc Val	gcg Ala	ctg Leu	ccg Pro 1680	ccc Pro	cgc Arg	ccc Pro	ctg Leu	44764
ccg 1685	ggc Pro	gcg Gly	gcg Ala	ggc Ala	tac Tyr 1690	cgg Arg	atg Met	tac Tyr	acc Thr	tcc Ser 1695	ggc Gly	tcc Ser	acg Thr	ggc Gly	44809
cgg 1700	ccc Arg	aag Pro	ggc Lys	gtg Gly	gtg Val 1705	acg Thr	acc Thr	cat His	cag Gln	aac Asn 1710	gtc Val	gtc Val	gac Asp	ctg Leu	44854
gtc 1715	acc Val	gac Thr	cgg Asp	tgc Arg	tgg Trp 1720	ggc Gly	ccg Pro	acg Thr	ccg Pro	cgg Arg 1725	gtc Val	ctg Leu	ttc Phe	cac His	44899
gcc 1730	ccg Ala	cac Pro	ggc His	ttc Ala	gac Asp 1735	gcc Ala	tcc Ser	tgc Ser	ttc Phe	gag Glu 1740	ctc Leu	tgg Trp	gtg Val	ccg Pro	44944
ctg 1745	ctg Leu	acc Leu	ggc Thr	ggc Gly	acg Thr 1750	gtc Val	gtg Val	gtc Val	gca Ala	ccg Pro 1755	ggg Gly	gag Glu	agc Ser	atc Ile	44989
gac 1760	acc Asp	ggt Thr	gtg Gly	ctg Val	cgg Arg 1765	cag Gln	ctg Leu	atc Ile	cgg Arg	gcc Ala 1770	cac His	gag Glu	ctg Leu	acc Thr	45034
cac 1775	gtg His	cac Val	gtc His	acc Val	ggc Ala 1780	ggc Gly	ctg Leu	ttg Leu	cgc Arg	gtg Val 1785	ctg Leu	gcc Ala	gag Glu	gac Asp	45079
ccg	tgc	tgc	ttc	ggc	ggg	ctc	acc	gag	gtg	ctc	acc	ggc	ggc	gac	45124

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Pro 1790	Ser	Cys	Phe	Ala	Gly 1795	Leu	Thr	Glu	Val	Leu 1800	Thr	Gly	Gly	Asp	
gtg Val 1805	gtc Val	ccg Pro	gcc Ala	gag Glu	gcg Ala 1810	gtg Val	cgc Arg	cgc Arg	gtg Val	ctg Leu 1815	gac Asp	gcc Ala	aat Asn	ccc Pro	45169
ggc Gly 1820	gtg Val	cgg Arg	gtg Val	cgg Arg	cag Gln 1825	ctg Leu	tac Tyr	ggc Gly	ccg Pro	acc Thr 1830	gag Glu	gtg Val	acg Thr	ctc Leu	45214
tgc Cys 1835	gcc Ala	acc Thr	cag Gln	cac His	gtg Val 1840	gtg Val	cgc Arg	gag Glu	ccc Pro	agc Ser 1845	ccg Pro	gtg Val	ctg Leu	ccc Pro	45259
atc Ile 1850	ggg Gly	cgg Arg	ccg Pro	ctc Leu	gac Asp 1855	aac Asn	acc Thr	cgc Arg	gtc Val	tac Tyr 1860	gtg Val	ctc Leu	gac Asp	ggg Gly	45304
ctt Leu 1865	ctc Leu	cag Gln	ccg Pro	gtc Val	ccg Pro 1870	gtc Val	ggg Gly	gtc Val	acc Thr	ggc Gly 1875	gag Glu	ctg Leu	tac Tyr	atc Ile	45349
gcc Ala 1880	ggc Gly	gcc Ala	ggc Gly	gtg Val	gcc Ala 1885	cgg Arg	ggc Gly	tac Tyr	gcc Ala	gac Asp 1890	atg Met	ccg Pro	ggc Gly	acc Thr	45394
acc Thr 1895	gcc Ala	gag Glu	cgg Arg	ttc Phe	gtc Val 1900	gcc Ala	gac Asp	ccg Pro	ttc Phe	acc Thr 1905	gcc Ala	ggc Gly	ggc Gly	cgc Arg	45439
ctc Leu 1910	tac Tyr	cgc Arg	acc Thr	ggg Gly	gac Asp 1915	ctg Leu	gtc Val	cgc Arg	tgg Trp	acc Thr 1920	ggc Gly	gag Glu	ggc Gly	gag Glu	45484
ctg Leu 1925	gtg Val	ttc Phe	gcc Ala	ggc Gly	cgg Arg 1930	gcc Ala	gac Asp	gac Asp	cag Gln	gtg Val 1935	aag Lys	atc Ile	cgc Arg	ggc Gly	45529
tac Tyr 1940	cgc Arg	gtc Val	gag Glu	ccg Pro	ggc Gly 1945	gag Glu	gtg Val	gag Glu	gcg Ala	gtc Val 1950	ctc Leu	gcc Ala	gcg Ala	ttg Leu	45574
ccg Pro 1955	ggc Gly	gtc Val	agc Ser	cag Gln	gcg Ala 1960	gcg Ala	gtc Val	atc Ile	gtc Val	cgc Arg 1965	gag Glu	gac Asp	gta Val	ccc Pro	45619
ggc Gly 1970	gac Asp	aag Lys	cgg Arg	ctg Leu	gtg Val 1975	gcc Ala	tac Tyr	ctg Leu	gtc Val	gcg Ala 1980	gcg Ala	ccg Pro	gag Glu	acg Thr	45664
gtc Val 1985	gag Glu	gcc Ala	gcc Ala	cgc Arg	gcc Ala 1990	cac His	gcc Ala	gag Glu	cag Gln	cgg Arg 1995	ctt Leu	ccg Pro	tcc Ser	tat Tyr	45709
ctc Leu 2000	gtc Val	ccg Pro	tcc Ser	gcg Ala	ttc Phe 2005	gtg Val	cag Gln	ctg Leu	gac Asp	gcg Ala 2010	ctg Leu	ccg Pro	ctg Leu	acc Thr	45754
ggc Gly 2015	aac Asn	cag Gln	aag Lys	gtc Val	gac Asp 2020	cgg Arg	gcg Ala	gcg Ala	ctg Leu	ccg Pro 2025	gca Ala	ccg Pro	ctg Leu	ggg Gly	45799
ttc	gaa	gcc	ggg	gcc	ggc	cgg	gcg	ccg	gcg	gac	gcc	cgc	gag	gag	45844

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Phe 2030	Glu	Ala	Gly	Ala	Gly 2035	Arg	Ala	Pro	Ala	Asp 2040	Ala	Arg	Glu	Glu	
ctg Leu 2045	gtc Val	ggc Gly	gcc Ala	gcc Ala	ttc Phe 2050	gcc Ala	gag Glu	gtg Val	ctc Leu	gac Asp 2055	ctc Leu	ggc Gly	cgg Arg	gtg Val	45889
ggc Gly 2060	ccc Pro	gac Asp	gac Asp	gac Asp	ttc Phe 2065	ttc Phe	gcg Ala	ctc Leu	ggc Gly	ggg Gly 2070	cac His	tcg Ser	ctg Leu	ctc Leu	45934
gcc Ala 2075	ctc Leu	gcg Ala	ctg Leu	gtg Val	gag Glu 2080	cgc Arg	ctg Leu	cgc Arg	cgg Arg	cag Gln 2085	ggc Gly	ctg Leu	ggc Gly	gtc Val	45979
tcg Ser 2090	gtg Val	cgt Arg	gcc Ala	gtc Val	ttc Phe 2095	gac Asp	gca Ala	cgc Arg	acc Thr	ccc Pro 2100	gcg Ala	gcg Ala	ctg Leu	acc Thr	46024
cgc Arg 2105	cgc Arg	ggc Gly	gac Asp	ggc Gly	ggt Gly 2110	gcc Ala	gac Asp	gac Asp	cgg Arg	ccg Pro 2115	gcg Ala	ctg Leu	cgg Arg	gcc Ala	46069
ggt Gly 2120	gcg Ala	cgg Arg	ccc Pro	gcg Ala	cgg Arg 2125	ctg Leu	ccg Pro	ctt Leu	tcc Ser	tac Tyr 2130	gcg Ala	cag Gln	cgc Arg	cgg Arg	46114
ctg Leu 2135	tgg Trp	ttc Phe	ctg Leu	gcc Ala	cag Gln 2140	ctg Leu	gaa Glu	gga Gly	ccg Pro	agc Ser 2145	gcc Ala	acc Thr	tac Tyr	aac Asn	46159
atc Ile 2150	ccg Pro	gtc Val	gcg Ala	ctg Leu	cgc Arg 2155	ctg Leu	gag Glu	ggc Gly	gac Asp	ctc Leu 2160	gac Asp	cgg Arg	gat Asp	gcc Ala	46204
ctg Leu 2165	acc Thr	gcc Ala	gcc Ala	ctg Leu	cgc Arg 2170	gac Asp	gtg Val	gtg Val	gcc Ala	cgg Arg 2175	cac His	gag Glu	gtg Val	ctg Leu	46249
cgc Arg 2180	acg Thr	gtg Val	ttc Phe	acg Thr	gtc Val 2185	gcc Ala	gac Asp	ggc Gly	gag Glu	ccg Pro 2190	tgg Trp	caa Gln	cac His	atc Ile	46294
ctc Leu 2195	gac Asp	ccc Pro	gcg Ala	cgg Arg	gcc Ala 2200	gag Glu	ccc Pro	gcg Ala	ttg Leu	ccg Pro 2205	gtc Val	gtg Val	gac Asp	gtg Val	46339
ccg Pro 2210	gcc Ala	ggc Gly	cgg Arg	gtc Val	gag Glu 2215	gag Glu	gcg Ala	gtc Val	gcc Ala	gaa Glu 2220	gcg Ala	gcc Ala	gcg Ala	tac Tyr	46384
gcc Ala 2225	ttc Phe	gac Asp	ctg Leu	gcc Ala	cgg Arg 2230	gag Glu	atc Ile	ccg Pro	ctg Leu	cgt Arg 2235	gcc Ala	gtg Val	ctg Leu	ctc Leu	46429
gcc Ala 2240	ccc Pro	ggc Gly	gac Asp	ggc Gly	acc Thr 2245	cac His	gtg Val	ctc Leu	gtg Val	ctg Leu 2250	gtg Val	ctg Leu	cac His	cac His	46474
atc Ile 2255	gcg Ala	gcc Ala	gac Asp	ggc Gly	tgg Trp 2260	tcg Ser	atg Met	cgg Arg	ccg Pro	ctg Leu 2265	gcc Ala	cgc Arg	gac Asp	ctg Leu	46519
gcg	acc	gcc	tac	gcc	gcg	cgg	cgg	cgg	ggg	cag	gcg	ccc	gag	tcg	46564

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Ala 2270	Thr	Ala	Tyr	Ala	Ala 2275	Arg	Arg	Arg	Gly	Gln 2280	Ala	Pro	Glu	Ser	
gag 2285	acc	ctg	ccc	gtc	cag 2290	tac	gcc	gac	tac	gcc 2295	ctc	tgg	cag	cgt	46609
Glu 2285	Thr	Leu	Pro	Val	Gln 2290	Tyr	Ala	Asp	Tyr	Ala 2295	Leu	Trp	Gln	Arg	
gac 2300	ctg	ctg	ggc	tcc	gac 2305	agc	gac	ccg	gcg	agc 2310	ctg	atc	tcc	cgg	46654
Asp 2300	Leu	Leu	Gly	Ser	Asp 2305	Ser	Asp	Pro	Ala	Ser 2310	Leu	Ile	Ser	Arg	
cag 2315	atc	gcc	cac	tgg	cgc 2320	gag	cgg	ctc	gac	ggc 2325	gtg	ccg	gag	gag	46699
Gln 2315	Ile	Ala	His	Trp	Arg 2320	Glu	Arg	Leu	Asp	Gly 2325	Val	Pro	Glu	Glu	
ctg 2330	gac	ctg	ccc	gcc	gac 2335	cgg	ccg	cgg	ccc	gcc 2340	gcg	gcc	tcg	cac	46744
Leu 2330	Asp	Leu	Pro	Ala	Asp 2335	Arg	Pro	Arg	Pro	Ala 2340	Ala	Ala	Ser	His	
cgc 2345	ggc	cac	ctg	cac	agc 2350	gcg	gag	atc	ccg	gcc 2355	gac	gtg	cac	cgg	46789
Arg 2345	Gly	His	Leu	His	Ser 2350	Ala	Glu	Ile	Pro	Ala 2355	Asp	Val	His	Arg	
agc 2360	ctg	cgc	cgg	gtc	gcc 2365	gcc	gac	cac	ggc	gcg 2370	acc	gtc	ttc	atg	46834
Ser 2360	Leu	Arg	Arg	Val	Ala 2365	Ala	Asp	His	Gly	Ala 2370	Thr	Val	Phe	Met	
acc 2375	ctg	cag	gcc	gcc	gtg 2380	gcg	gtc	ctg	ctg	tcg 2385	cgg	ctc	ggc	gcg	46879
Thr 2375	Leu	Gln	Ala	Ala	Val 2380	Ala	Val	Leu	Leu	Ser 2385	Arg	Leu	Gly	Ala	
ggc 2390	acc	gac	gtc	ccg	atc 2395	ggc	acc	gtc	gtc	gcc 2400	ggc	cgc	gcc	gac	46924
Gly 2390	Thr	Asp	Val	Pro	Ile 2395	Gly	Thr	Val	Val	Ala 2400	Gly	Arg	Ala	Asp	
cgg 2405	gcg	ctg	gag	aac	ctg 2410	gtc	ggc	ttc	ttc	gtc 2415	aac	acc	ctc	gtg	46969
Arg 2405	Ala	Leu	Glu	Asn	Leu 2410	Val	Gly	Phe	Phe	Val 2415	Asn	Thr	Leu	Val	
ctg 2420	cgc	acc	gac	ctg	acc 2425	ggc	gac	ccg	cgg	ctg 2430	acc	gac	gtg	ctc	47014
Leu 2420	Arg	Thr	Asp	Leu	Thr 2425	Gly	Asp	Pro	Arg	Leu 2430	Thr	Asp	Val	Leu	
ggc 2435	cag	gtg	cgc	gag	ctg 2440	acc	ctg	cgg	gcg	ctg 2445	gcc	cac	cag	gac	47059
Gly 2435	Gln	Val	Arg	Glu	Leu 2440	Thr	Leu	Arg	Ala	Leu 2445	Ala	His	Gln	Asp	
gtc 2450	ccg	ttc	gag	aag	ctg 2455	gtc	gag	gag	ctc	acc 2460	ccg	gcc	cgc	tcg	47104
Val 2450	Pro	Phe	Glu	Lys	Leu 2455	Val	Glu	Glu	Leu	Thr 2460	Pro	Ala	Arg	Ser	
ctc 2465	gcc	cgg	cac	ccc	ctg 2470	ttc	cag	gtc	atg	gtc 2475	acc	ctg	gac	ggc	47149
Leu 2465	Ala	Arg	His	Pro	Leu 2470	Phe	Gln	Val	Met	Val 2475	Thr	Leu	Asp	Gly	
ggc 2480	ggg	ccg	gac	ggc	gcc 2485	gag	ctg	ccg	ggc	ctg 2490	gcg	atg	tcg	gtc	47194
Gly 2480	Gly	Pro	Asp	Gly	Ala 2485	Glu	Leu	Pro	Gly	Leu 2490	Ala	Met	Ser	Val	
gtg 2495	ccg	acc	ggc	gcc	gtt 2500	ccg	gcc	aag	ttc	gac 2505	ctc	gac	ctc	acg	47239
Val 2495	Pro	Thr	Gly	Ala	Val 2500	Pro	Ala	Lys	Phe	Asp 2505	Leu	Asp	Leu	Thr	
ttc	acc	gag	acc	ttc	gac	gcc	gcg	ggg	gag	ccg	gcc	ggc	ctg	cgc	47284

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Phe 2510	Thr	Glu	Thr	Phe	Asp 2515	Ala	Ala	Gly	Glu	Pro 2520	Ala	Gly	Leu	Arg	
gtc Val 2525	gac Asp	ctc Leu	atc Ile	gcg Ala	gcg Ala 2530	gcc Ala	gac Asp	ctc Leu	ttc Phe	gac Asp 2535	gcg Ala	ggc Gly	acg Thr	gcc Ala	47329
gcc Ala 2540	cgg Arg	ctc Leu	gcc Ala	ggc Gly	tac Tyr 2545	ctg Leu	agc Ser	cgc Arg	gtt Val	ctc Leu 2550	ggc Gly	gtg Val	ctc Leu	gcg Ala	47374
gcc Ala 2555	gat Asp	ccg Pro	cgg Arg	cgc Arg	cgc Arg 2560	ctg Leu	gcc Ala	gag Glu	gtc Val	gac Asp 2565	ccg Pro	ctg Leu	gag Glu	gcg Ala	47419
gag Glu 2570	gag Glu	agc Ser	cgg Arg	ctc Leu	atg Met 2575	ctc Leu	gcc Ala	gcc Ala	ggg Gly	gag Glu 2580	gag Glu	ccc Pro	gcg Ala	ccg Pro	47464
gcc Ala 2585	ctg Leu	ccc Pro	gag Glu	atc Ile	acc Thr 2590	gtc Val	gcg Ala	gcg Ala	ctc Leu	gtc Val 2595	gcc Ala	gag Glu	cag Gln	tgc Cys	47509
gcc Ala 2600	cgc Arg	acg Thr	ccg Pro	ggg Gly	gcg Ala 2605	gtc Val	gcg Ala	gtg Val	acc Thr	gga Gly 2610	ccg Pro	gac Asp	gcg Ala	agc Ser	47554
ctg Leu 2615	acc Thr	tac Tyr	gcc Ala	gag Glu	ctc Leu 2620	gac Asp	gag Glu	cgg Arg	gcg Ala	gcc Ala 2625	cgg Arg	atc Ile	gcc Ala	cgc Arg	47599
tgg Trp 2630	ctg Leu	cgc Arg	cgc Arg	cac His	ggg Gly 2635	gcc Ala	ggg Gly	ccc Pro	ggc Gly	gcg Ala 2640	gcc Ala	gtg Val	tgc Cys	gtc Val	47644
ctg Leu 2645	atg Met	gaa Glu	cgg Arg	tcg Ser	gcg Ala 2650	gag Glu	ctg Leu	gtc Val	gcc Ala	gtg Val 2655	ctg Leu	ctc Leu	ggc Gly	gtg Val	47689
atg Met 2660	cgc Arg	gcg Ala	ggg Gly	gcg Ala	gcg Ala 2665	tac Tyr	gtg Val	ccg Pro	gtc Val	gac Asp 2670	ccc Pro	gcc Ala	tat Tyr	ccg Pro	47734
gcc Ala 2675	gag Glu	cgg Arg	atc Ile	cgg Arg	ttc Phe 2680	gtc Val	gtc Val	acc Thr	gac Asp	gcc Ala 2685	cgg Arg	gcc Ala	gcc Ala	tgc Cys	47779
gtg Val 2690	gtg Val	agc Ser	gag Glu	tcg Ser	gcc Ala 2695	tcg Ser	gcc Ala	ggc Gly	ctc Leu	gtc Val 2700	ccg Pro	gac Asp	ggg Gly	gtg Val	47824
ccg Pro 2705	tgc Cys	ctg Leu	gcg Ala	atc Ile	gac Asp 2710	gac Asp	ccg Pro	gcc Ala	gcc Ala	gcc Ala 2715	gcg Ala	gaa Glu	ccg Pro	gcc Ala	47869
gag Glu 2720	ccc Pro	ggc Gly	gac Asp	gac Asp	ccg Pro 2725	ggc Gly	gac Asp	gcg Ala	gcc Ala	ggg Gly 2730	ccg Pro	cgg Arg	ccg Pro	gac Asp	47914
gat Asp 2735	ccg Pro	gcg Ala	tac Tyr	atc Ile	atc Ile 2740	tac Tyr	acc Thr	tcc Ser	gga Gly	tcg Ser 2745	acc Thr	ggc Gly	acc Thr	ccc Pro	47959
aag	ggc	gtc	gtg	gtc	tcg	cac	cgc	aac	gtc	gtg	gcg	ctg	ctg	acc	48004

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Lys 2750	Gly	Val	Val	Val	Ser 2755	His	Arg	Asn	Val	Val 2760	Ala	Leu	Leu	Thr	
gcc Ala 2765	acc Thr	cgg Arg	cgc Pro	ctg Leu	ttc Phe 2770	ggc Gly	ttc Phe	gcc Ala	ggc Gly	gac Asp 2775	gag Glu	gtg Val	tgg Trp	tcg Ser	48049
tgg Trp 2780	ttc Phe	cac His	tcg Ser	gtc Val	gcg Ala 2785	ttc Phe	gac Asp	ttc Phe	tcg Ser	gtg Val 2790	tgg Trp	gag Glu	ctg Leu	tgg Trp	48094
ggc Gly 2795	gcg Ala	ctc Leu	acc Thr	cac His	ggc Gly 2800	ggc Gly	cgg Arg	gtc Val	gtc Val	gtc Val 2805	gtg Val	ccc Pro	tac Tyr	gcg Ala	48139
gtg Val 2810	tcc Ser	cgc Arg	tcg Ser	ccg Pro	cgc Ser 2815	gac Asp	ttc Phe	tgg Trp	gag Glu	ctc Leu 2820	gtc Val	gtc Val	cgc Arg	gag Glu	48184
ggc Gly 2825	gtc Val	acc Thr	gtg Val	ctg Leu	agc Ser 2830	cag Gln	aca Thr	ccg Pro	tcg Ser	gcc Ala 2835	ttc Phe	gcg Ala	cag Gln	ctc Leu	48229
atg Met 2840	gcc Ala	gcg Ala	gcg Ala	ggg Gly	gac Asp 2845	gac Asp	gac Asp	cgg Arg	gac Asp	gcg Ala 2850	ctg Leu	cgg Arg	ttc Phe	gtc Val	48274
gtc Val 2855	ttc Phe	ggc Gly	ggc Gly	gag Glu	gcc Ala 2860	ctc Leu	gac Asp	ccg Pro	ggc Gly	cgg Arg 2865	ctg Leu	gcc Ala	ggc Gly	tgg Trp	48319
ctg Leu 2870	gcc Ala	cgc Arg	cgc Arg	ccg Pro	gac Asp 2875	aag Lys	ccg Pro	cgc Arg	ctg Leu	gtc Val 2880	aac Asn	atg Met	tac Tyr	ggc Gly	48364
atc Ile 2885	acc Thr	gag Glu	acg Thr	acc Thr	gtg Val 2890	cac His	acc Thr	acg Thr	tac Tyr	cag Gln 2895	cac His	atc Ile	gcg Ala	ccc Pro	48409
ggc Gly 2900	acg Thr	acg Thr	ggc Gly	agc Ser	gtc Val 2905	atc Ile	ggc Gly	cgc Arg	gga Gly	ctg Leu 2910	ccc Pro	ggc Gly	ttc Phe	ggc Gly	48454
ctc Leu 2915	tac Tyr	gtg Val	ctg Leu	gac Asp	gag Glu 2920	gcg Ala	ctg Leu	cgc Arg	ccg Pro	gtg Val 2925	ccg Pro	gcc Ala	ggc Gly	gtg Val	48499
ccc Pro 2930	ggc Gly	gag Glu	gtg Val	tac Tyr	gcc Ala 2935	cgc Arg	ggc Gly	ccg Pro	cag Gln	gtg Val 2940	gcc Ala	cgc Arg	ggc Gly	tac Tyr	48544
atc Ile 2945	ggc Gly	cgc Arg	ccc Pro	ggc Gly	ctg Leu 2950	acc Thr	gcg Ala	gag Glu	cgg Arg	ttc Phe 2955	gtc Val	gcc Ala	tcg Ser	ccc Pro	48589
ttc Phe 2960	gcg Ala	ccc Pro	ggc Gly	gag Glu	cgg Arg 2965	atg Met	tac Tyr	cgc Arg	acc Thr	ggc Gly 2970	gac Asp	gtg Val	gcc Ala	cgc Arg	48634
tgg Trp 2975	acc Thr	gcc Ala	gac Asp	ggc Gly	cgc Arg 2980	ctg Leu	gtg Val	ttc Phe	gcc Ala	ggc Gly 2985	cgc Arg	tcg Ser	gac Asp	gac Asp	48679
cag	atc	aag	atc	cgc	ggc	ttc	cgg	atc	gag	ccc	ggc	gag	gtg	gag	48724

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Gln 2990	Ile	Lys	Ile	Arg	Gly 2995	Phe	Arg	Ile	Glu	Pro 3000	Gly	Glu	Val	Glu	
gcc Ala 3005	gtg Val	ctg Leu	gcc Ala	gcc Ala	ggg Gly 3010	ccg Pro	ggc Gly	gtg Val	agc Ser	cag Gln 3015	gcc Ala	gcg Ala	gtg Val	atc Ile	48769
gtg Val 3020	cgt Arg	gag Glu	gac Asp	gtg Val	ccg Pro 3025	ggg Gly	gac Asp	aag Lys	cgc Arg	ttg Leu 3030	gtg Val	gcg Ala	tac Tyr	gtc Val	48814
gtg Val 3035	ggc Gly	ggc Gly	gac Asp	gcg Ala	gag Glu 3040	acc Thr	ctc Leu	cgg Arg	tgc Ser	cat His 3045	gcc Ala	cag Gln	cag Gln	cgg Arg	48859
ttg Leu 3050	ccg Pro	ggg Gly	tat Tyr	ctg Leu	gtg Val 3055	ccg Pro	tgc Ser	gcg Ala	ttc Phe	gtg Val 3060	gag Glu	ctg Leu	gac Asp	cgg Arg	48904
ttg Leu 3065	ccg Pro	ttg Leu	acg Thr	gtc Val	aac Asn 3070	ggc Gly	aag Lys	ctc Leu	gat Asp	cgc Arg 3075	cgg Arg	gct Ala	ctg Leu	ccg Pro	48949
gtg Val 3080	ccg Pro	gac Asp	tac Tyr	ggc Gly	cgg Arg 3085	gac Asp	gcc Ala	ggg Gly	ggg Gly	ggg Gly 3090	cgg Arg	gcg Ala	ccg Pro	gcc Ala	48994
aac Asn 3095	gct Ala	cgc Arg	gag Glu	gag Glu	gtg Val 3100	ttg Leu	tgc Cys	cgg Arg	gcg Ala	ttc Phe 3105	gcc Ala	gag Glu	gtg Val	ctc Leu	49039
ggc Gly 3110	gtc Val	gag Glu	cgg Arg	gtg Val	ggg Gly 3115	gtg Val	gag Glu	gac Asp	gat Asp	ttc Phe 3120	ttc Phe	gcg Ala	ctg Leu	ggg Gly	49084
ggg Gly 3125	cat His	tgc Ser	ctg Leu	ctg Leu	gtg Val 3130	gtc Val	tgc Ser	ctg Leu	gtg Val	gag Glu 3135	cgg Arg	ctg Leu	cgc Arg	cgg Arg	49129
cag Gln 3140	ggg Gly	atc Ile	tgc Ser	gtg Val	ccg Pro 3145	gtg Val	cgg Arg	gcg Ala	ttg Leu	ttc Phe 3150	acc Thr	acg Thr	ccg Pro	acc Thr	49174
ccg Pro 3155	gcc Ala	ggg Gly	ctg Leu	gcc Ala	gag Glu 3160	gcg Ala	gtc Val	ggg Gly	gat Asp	ggg Gly 3165	gcc Ala	gtg Val	gtg Val	gtg Val	49219
ccg Pro 3170	ccg Pro	aac Asn	ctg Leu	att Ile	ccc Pro 3175	gag Glu	gac Asp	gcg Ala	gcg Ala	gag Glu 3180	ctg Leu	acc Thr	ccg Pro	gag Glu	49264
atg Met 3185	ctg Leu	ccg Pro	ctg Leu	gcc Ala	gat Asp 3190	ctg Leu	acc Thr	gcc Ala	gac Asp	gaa Glu 3195	ctt Leu	gct Ala	gtt Val	gtc Val	49309
gtg Val 3200	gcg Ala	tgc Ser	gtg Val	ccc Pro	ggg Gly 3205	ggg Gly	gcg Ala	gcg Ala	aac Asn	atc Ile 3210	gcg Ala	gat Asp	gtg Val	tat Tyr	49354
ccg Pro 3215	ttg Leu	gcg Ala	ccg Pro	ttg Leu	cag Gln 3220	gag Glu	ggc Gly	att Ile	ttc Phe	ttc Phe 3225	cat His	cac His	atg Met	atg Met	49399
gcc	gac	cgg	gat	tgc	gcg	gac	gtg	tat	gtg	acg	ccg	acg	gtg	gtc	49444

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Ala 3230	Asp	Arg	Asp	Ser	Ala 3235	Asp	Val	Tyr	Val	Thr 3240	Pro	Thr	Val	Val	
gag 3245	ttc Phe	gac Asp	tcc Ser	cgg Arg	gac Asp 3250	cgg Arg	ttg Leu	gac Asp	ggc Gly	ttc Phe 3255	ctg Leu	gcc Ala	gcc Ala	ttg Leu	49489
cag 3260	cag Gln	gtc Val	gtc Val	gac Asp	cgc Arg 3265	acc Thr	gat Asp	gtc Val	tac Tyr	cgc Arg 3270	acc Thr	agc Ser	gtg Val	gtg Val	49534
tgg 3275	cag Gln	ggg Gly	ctg Leu	cgc Arg	gag Glu 3280	cgg Pro	gtg Val	cag Gln	gtg Val	gtg Val 3285	tgg Trp	cgg Arg	cac His	gcg Ala	49579
cgc 3290	ctg Leu	cgg Pro	atc Ile	gac Asp	gag Glu 3295	gtc Val	gag Glu	ctg Leu	cac His	gag Glu 3300	ggc Gly	acc Thr	gat Asp	cgg Pro	49624
gcc 3305	gag Glu	cag Gln	ctg Leu	atc Ile	gcg Ala 3310	ctc Leu	gcc Ala	acc Thr	gag Glu	cgg Arg 3315	gtg Val	gac Asp	ctc Leu	gac Asp	49669
cgc 3320	gcg Ala	cgg Pro	ctg Leu	atc Ile	cgc Arg 3325	acg Thr	acg Thr	acc Thr	gcg Ala	gcc Ala 3330	gtg Val	ccc Pro	gga Gly	tcc Ser	49714
ggc 3335	cgg Arg	tgg Trp	ctc Leu	gcg Ala	ctt Leu 3340	ctg Leu	cgc Arg	atc Ile	cac His	cac His 3345	ctc Leu	gtg Val	cag Gln	gac Asp	49759
cac 3350	acc Thr	acc Thr	ctg Leu	gac Asp	gtg Val 3355	ctg Leu	ctc Leu	ggc Gly	gag Glu	ctg Leu 3360	cgg Arg	gcc Ala	ttc Phe	ctc Leu	49804
gag 3365	ggc Gly	cgc Arg	ggc Gly	gac Asp	gag Glu 3370	ctt Leu	ccc Pro	gag Glu	cgg Pro	gtg Val 3375	cgg Pro	ttc Phe	cgc Arg	gag Glu	49849
ttc 3380	gtg Val	gcg Ala	cag Gln	gcg Ala	cgg Arg 3385	ctc Leu	ggt Gly	gtg Val	cgg Pro	cgc Arg 3390	gag Glu	gag Glu	cac His	gag Glu	49894
cgg 3395	tac Tyr	ttc Phe	gcg Ala	gag Glu	ttg Leu 3400	ctc Leu	ggc Gly	gac Asp	gtc Val	acc Thr 3405	gag Glu	acc Thr	acc Thr	gcg Ala	49939
cgg 3410	tac Tyr	ggc Gly	ctg Leu	acc Thr	gag Glu 3415	gtg Val	cac His	ggc Gly	gac Asp	ggt Gly 3420	tcg Ser	gcc Ala	gcc Ala	gtg Val	49984
cac 3425	agc Ser	cgg Arg	cgc Arg	gag Glu	gtg Val 3430	gac Asp	gac Asp	gac Asp	ctc Leu	gcc Ala 3435	gcg Ala	cgc Arg	ctc Leu	cac His	50029
cgg 3440	ctg Leu	gcc Ala	cgg Arg	tcg Ser	ctc Leu 3445	ggc Gly	gtc Val	agc Ser	cgg Pro	gcg Ala 3450	gcg Ala	ctc Leu	ttc Phe	cac His	50074
ctc 3455	gcg Ala	tgg Trp	gcg Ala	cgg Arg	gtg Val 3460	ctc Leu	ggc Gly	gcc Ala	gtg Val	tcg Ser 3465	ggc Gly	cgg Arg	gac Asp	gac Asp	50119
gtc	gtc	ttc	ggc	acg	gtc	ctg	ttc	ggg	cgg	atg	aac	tcc	ggc	gcc	50164

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Val 3470	Val	Phe	Gly	Thr	Val 3475	Leu	Phe	Gly	Arg	Met 3480	Asn	Ser	Gly	Ala	
gcc Ala 3485	gcc Ala	gac Asp	cgc Arg	gtg Val	cag Gln 3490	ggc Gly	ttg Leu	ttc Phe	atc Ile	aac Asn 3495	acg Thr	ctc Leu	ccg Pro	gtg Val	50209
cgc Arg 3500	gtg Val	cgg Arg	ctc Leu	gcc Ala	gcc Ala 3505	ggc Gly	agc Ser	acc Thr	cgc Arg	gac Asp 3510	gcc Ala	ctg Leu	acc Thr	ggg Gly	50254
ctg Leu 3515	cgg Arg	gac Asp	cag Gln	ctg Leu	gcc Ala 3520	ggg Gly	ctg Leu	ctg Leu	gtg Val	cac His 3525	gag Glu	cac His	gcg Ala	ccg Pro	50299
ctc Leu 3530	gcg Ala	ctg Leu	gcg Ala	cag Gln	cgc Arg 3535	gcg Ala	gcc Ala	ggc Gly	atc Ile	acc Thr 3540	gac Asp	ggc Gly	agc Ser	ccg Pro	50344
ctg Leu 3545	ttc Phe	gcg Ala	tcg Ser	atc Ile	ttc Phe 3550	aac Asn	tac Tyr	cgc Arg	cac His	aac Asn 3555	cag Gln	gac Asp	gac Asp	ccg Pro	50389
gcg Ala 3560	gcg Ala	tcg Ser	gcc Ala	ggg Gly	ctc Leu 3565	gag Glu	ggc Gly	atc Ile	cgc Arg	acg Thr 3570	gtc Val	tac Tyr	agc Ser	gcc Ala	50434
gag Glu 3575	cac His	acc Thr	aac Asn	tac Tyr	ccg Pro 3580	ctc Leu	gac Asp	gcc Ala	tcg Ser	atc Ile 3585	gac Asp	gtc Val	acc Thr	ggc Gly	50479
gac Asp 3590	cgc Arg	ttc Phe	gcc Ala	atc Ile	acc Thr 3595	gtg Val	aac Asn	gcg Ala	gtg Val	gcg Ala 3600	ccc Pro	gcg Ala	gac Asp	gcc Ala	50524
gcg Ala 3605	cgg Arg	atc Ile	gct Ala	gag Glu	ctg Leu 3610	atg Met	cac His	acc Thr	tgc Cys	ctc Leu 3615	ggc Gly	cac His	ctc Leu	gcg Ala	50569
gac Asp 3620	gtg Val	ctc Leu	gaa Glu	gac Asp	gcg Ala 3625	ccg Pro	gag Glu	acg Thr	ccg Pro	ctg Leu 3630	tcg Ser	tgg Trp	gtc Val	agc Ser	50614
ccg Pro 3635	ctg Leu	agc Ser	gcg Ala	gag Glu	gat Asp 3640	ctc Leu	ggc Gly	cgc Arg	atc Ile	gtg Val 3645	ggc Gly	gac Asp	tgg Trp	aac Asn	50659
gag Glu 3650	acg Thr	cgg Arg	cgc Arg	gcg Ala	gtc Val 3655	acc Thr	cgc Arg	gcg Ala	tcc Ser	gtg Val 3660	ccg Pro	gag Glu	ctg Leu	ttc Phe	50704
gcc Ala 3665	aag Lys	cag Gln	gtg Val	gcc Ala	gcc Ala 3670	acg Thr	ccg Pro	gac Asp	gcg Ala	atc Ile 3675	gcg Ala	gtg Val	gcg Ala	ggc Gly	50749
gag Glu 3680	ggg Gly	gtg Val	tcg Ser	tgg Trp	tcc Ser 3685	tat Tyr	cgc Arg	gag Glu	ctc Leu	gat Asp 3690	gtg Val	cgc Arg	tcg Ser	gat Asp	50794
gcg Ala 3695	ctg Leu	gcc Ala	cgg Arg	agt Ser	ctg Leu 3700	gtg Val	gcg Ala	gcc Ala	ggg Gly	gtg Val 3705	ggg Gly	atc Ile	gag Glu	tcg Ser	50839
ccg	gtg	gtg	gtg	gcg	ctc	gat	cgg	tct	ccg	gag	gtg	ccg	acg	gcg	50884

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Pro 3710	Val	Val	Val	Ala	Leu 3715	Asp	Arg	Ser	Pro	Glu 3720	Val	Pro	Thr	Ala	
ttc Phe 3725	ctc Leu	gcg Ala	gtg Val	gcg Ala	aag Lys 3730	gcc Ala	ggc Gly	ggg Gly	gtg Val	ttc Phe 3735	gtc Val	ccg Pro	gtg Val	gac Asp	50929
ttg Leu 3740	tcg Ser	tgg Trp	ccc Pro	cag Gln	gcg Ala 3745	cgt Arg	gtc Val	gat Asp	gcg Ala	gtg Val 3750	atc Ile	gcc Ala	gac Asp	tgc Cys	50974
gcc Ala 3755	gcg Ala	cgg Arg	gtg Val	gcg Ala	gtg Val 3760	gcc Ala	gac Asp	cgg Arg	ccg Pro	atg Met 3765	acc Thr	ggg Gly	ctg Leu	acg Thr	51019
gtt Val 3770	gtg Val	ccc Pro	gcc Ala	gac Asp	gcg Ala 3775	gcc Ala	ggc Gly	gac Asp	ccg Pro	gct Ala 3780	gcc Ala	gag Glu	ttg Leu	ccg Pro	51064
ccc Pro 3785	cgc Arg	ccc Pro	ttg Leu	ccg Pro	ggg Gly 3790	gcg Ala	gag Glu	gtc Val	tac Tyr	cgg Arg 3795	atg Met	tac Tyr	acc Thr	tcc Ser	51109
ggc Gly 3800	tcg Ser	acg Thr	ggc Gly	cgg Arg	ccc Pro 3805	aag Lys	ggg Gly	gtg Val	gtg Val	acc Thr 3810	acc Thr	cac His	cag Gln	aac Asn	51154
ctg Leu 3815	gtg Val	gat Asp	ctg Leu	gcg Ala	acc Thr 3820	gac Asp	acg Thr	tgt Cys	tgg Trp	ggg Gly 3825	ccg Pro	acc Thr	ccg Pro	cgg Arg	51199
gtg Val 3830	ctt Leu	ttc Phe	cac His	gcc Ala	ccg Pro 3835	cac His	gcc Ala	ttc Phe	gac Asp	gcg Ala 3840	tcg Ser	tcg Ser	tac Tyr	gag Glu	51244
atc Ile 3845	tgg Trp	gtg Val	ccg Pro	ttg Leu	ctg Leu 3850	aat Asn	ggc Gly	ggc Gly	acg Thr	gtc Val 3855	gtg Val	gtc Val	gcg Ala	ccg Pro	51289
ggg Gly 3860	cgg Arg	agc Ser	atc Ile	gat Asp	gcc Ala 3865	gcc Ala	gtg Val	ctc Leu	ggc Gly	gag Glu 3870	ctg Leu	atc Ile	cgg Arg	gcg Ala	51334
cat His 3875	gag Glu	ttg Leu	acg Thr	cac His	gtg Val 3880	cac His	gtc Val	acc Thr	gcg Ala	ggc Gly 3885	ctg Leu	ctg Leu	cgg Arg	gtg Val	51379
ctg Leu 3890	gac Asp	ccg Pro	tcg Ser	tgc Cys	ttc Phe 3895	gcg Ala	ggg Gly	ctg Leu	acc Thr	gag Glu 3900	gtg Val	ctc Leu	acg Thr	ggc Gly	51424
ggc Gly 3905	gat Asp	gcg Ala	gtg Val	tcg Ser	gcc Ala 3910	gag Glu	gcg Ala	gtg Val	cgc Arg	cgg Arg 3915	gtg Val	atg Met	gag Glu	gcg Ala	51469
aac Asn 3920	ccg Pro	ggc Gly	ctg Leu	cgg Arg	gta Val 3925	cgt Arg	cag Gln	ctg Leu	tac Tyr	ggc Gly 3930	ccg Pro	acc Thr	gag Glu	gtg Val	51514
acg Thr 3935	ctg Leu	tgc Cys	gcc Ala	acg Thr	cag Gln 3940	cag Gln	gtg Val	ctc Leu	gat Asp	ggc Gly 3945	acg Thr	ggc Gly	gtg Val	ccg Pro	51559
atc	ggg	cgg	ccg	ttg	gac	aac	acc	cgc	gtg	tat	gtc	ctg	gat	gac	51604

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Ile 3950	Gly	Arg	Pro	Leu	Asp 3955	Asn	Thr	Arg	Val	Tyr 3960	Val	Leu	Asp	Asp	
ttg 3965	ctg	cag	ccg	gtc	ccg 3970	gtc	ggg	gtg	acc	ggc 3975	gag	ctg	tat	gtg	51649
Leu	Leu	Gln	Pro	Val	Pro	Val	Gly	Val	Thr	Gly	Glu	Leu	Tyr	Val	
gcc 3980	ggg	gcc	ggc	ttg	gcg 3985	gcg	ggc	tat	gcg	ggc 3990	atg	ccc	ggg	ttg	51694
Ala	Gly	Ala	Gly	Leu	Ala	Arg	Gly	Tyr	Ala	Gly	Met	Pro	Gly	Leu	
acg 3995	gcc	gag	cgg	ttc	gtc 4000	gcc	gac	ccg	ttc	agc 4005	agc	ggc	ggg	cgc	51739
Thr	Ala	Glu	Arg	Phe	Val	Ala	Asp	Pro	Phe	Ser	Ser	Gly	Gly	Arg	
ctc 4010	tac	cgc	acg	ggg	gat 4015	ctg	gtg	cgg	tgg	acc 4020	gat	gac	ggg	gtg	51784
Leu	Tyr	Arg	Thr	Gly	Asp	Leu	Val	Arg	Trp	Thr	Asp	Asp	Gly	Val	
ctg 4025	gtg	ttc	gcg	ggc	cgg 4030	gcc	gat	gat	cag	gtg 4035	aag	att	cgt	ggc	51829
Leu	Val	Phe	Ala	Gly	Arg	Ala	Asp	Asp	Gln	Val	Lys	Ile	Arg	Gly	
tat 4040	cgg	gtg	gag	ccg	ggc 4045	gag	gtc	gag	gct	gtc 4050	ttg	gcc	gcg	cat	51874
Tyr	Arg	Val	Glu	Pro	Gly	Glu	Val	Glu	Ala	Val	Leu	Ala	Ala	His	
ccg 4055	gac	gtg	gct	cag	gtg 4060	gca	gtg	gtc	gtc	cgg 4065	gag	gac	acc	cca	51919
Pro	Asp	Val	Ala	Gln	Val	Ala	Val	Val	Val	Arg	Glu	Asp	Thr	Pro	
ggg 4070	gat	aag	cgg	ctg	gtc 4075	gcc	tac	gtc	gtc	ggc 4080	ggc	gat	gtc	gag	51964
Gly	Asp	Lys	Arg	Leu	Val	Ala	Tyr	Val	Val	Gly	Gly	Asp	Val	Glu	
gcg 4085	tat	gcg	cag	gag	cgc 4090	ctt	ccg	ggc	tac	ctg 4095	gtc	ccg	tcg	gcc	52009
Ala	Tyr	Ala	Gln	Glu	Arg	Leu	Pro	Gly	Tyr	Leu	Val	Pro	Ser	Ala	
ttc 4100	gtc	cat	ctg	gac	gcg 4105	ctg	ccg	ctg	acc	agc 4110	aac	cag	aag	gtc	52054
Phe	Val	His	Leu	Asp	Ala	Leu	Pro	Leu	Thr	Ser	Asn	Gln	Lys	Val	
gac 4115	cgg	gcc	gca	ctg	ccc 4120	gcg	ccg	tcc	gtg	gag 4125	tcc	ggc	gcg	ggc	52099
Asp	Arg	Ala	Ala	Leu	Pro	Ala	Pro	Ser	Val	Glu	Ser	Gly	Ala	Gly	
cgg 4130	gcg	ccc	gcc	gac	gcg 4135	cgt	gaa	gag	ctg	atg 4140	tgt	gcc	gcg	ttt	52144
Arg	Ala	Pro	Ala	Asp	Ala	Arg	Glu	Glu	Leu	Met	Cys	Ala	Ala	Phe	
gcc 4145	gag	gtg	ctc	gac	ctg 4150	gat	cgg	gtc	ggg	gtc 4155	gac	gac	gac	ttc	52189
Ala	Glu	Val	Leu	Asp	Leu	Asp	Arg	Val	Gly	Val	Asp	Asp	Asp	Phe	
ttc 4160	gct	ttg	ggg	ggg	cat 4165	tcg	ctg	ttg	gtg	gtg 4170	cgg	ttg	gtg	ggc	52234
Phe	Ala	Leu	Gly	Gly	His	Ser	Leu	Leu	Val	Val	Arg	Leu	Val	Gly	
cgt 4175	att	cgg	cag	gtg	ttc 4180	ggg	gtg	gag	gtg	tcg 4185	gct	cgg	ctg	gtc	52279
Arg	Ile	Arg	Gln	Val	Phe	Gly	Val	Glu	Val	Ser	Ala	Arg	Leu	Val	
ttc	gat	gcg	cgg	act	ccg	gcc	ggg	gtg	gtg	gcc	cgc	ttg	tcc	gag	52324

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Phe 4190	Asp	Ala	Arg	Thr	Pro 4195	Ala	Gly	Val	Val	Ala 4200	Arg	Leu	Ser	Glu	
ggc 4205	ggc Gly	acg Thr	gcc Ala	cgg Arg	gag Glu 4210	gcg Ala	gtg Val	cgg Arg	gcg Ala	cgg Arg 4215	gtg Val	cgt Arg	ccc Pro	gcg Ala	52369
cgg 4220	gtg Val	cgg Pro	ttg Leu	tcg Ser	ttc Phe 4225	gcg Ala	caa Gln	cgc Arg	cgg Arg	ttg Leu 4230	tgg Trp	ttc Phe	ctg Leu	tcc Ser	52414
cag 4235	ctg Gln	gac Leu	ggc Asp	acg Gly	agc Thr 4240	acg Thr	acc Thr	tac Tyr	aac Asn	atc Ile 4245	ccg Pro	gtc Val	gcg Ala	ctg Leu	52459
caa 4250	ctc Gln	gac Leu	ggc Asp	cgg Gly	ctc Pro 4255	gat Asp	cgg Arg	gac Asp	gcc Ala	ttc Phe 4260	acc Thr	gcg Ala	gca Ala	ctg Leu	52504
cac 4265	gat His	gtg Asp	gtc Val	gcc Ala	cgg Arg 4270	cac His	gag Glu	gtg Val	ctg Leu	cgt Arg 4275	acc Thr	gtc Val	ttc Phe	acc Thr	52549
gtc 4280	gcc Val	gat Ala	ggc Asp	gag Gly	cgg Glu 4285	tgg Trp	caa Gln	cac His	atc Ile	ctc Leu 4290	gac Asp	acg Thr	cgg Pro	tcg Ser	52594
gtg 4295	agc Val	gtc Ser	ccc Val	gtc Pro	atc Ile 4300	gag Glu	gtg Val	ccc Pro	gcc Ala	gac Asp 4305	ggg Gly	ctt Leu	cgg Pro	gag Glu	52639
gcg 4310	gtg Val	gcc Ala	gcg Ala	gcg Ala	gcc Ala 4315	gcg Ala	cac His	acc Thr	ttc Phe	gac Asp 4320	ctg Leu	agc Ser	cgg Arg	gag Glu	52684
atc 4325	ccg Ile	ctc Pro	cgg Leu	gcg Arg	gtg Ala 4330	ctg Leu	ctc Leu	gcc Ala	acc Thr	ggc Gly 4335	gcc Ala	gac Asp	cgg Arg	cac His	52729
gtg 4340	ctg Val	gtg Leu	ctg Val	gtc Val	gtg Val 4345	cat His	cac His	atc Ile	gcc Ala	gcc Ala 4350	gac Asp	ggc Gly	tgg Trp	tcg Ser	52774
atg 4355	cag Met	ccc Gln	ctc Pro	gcc Leu	cgg Ala 4360	gac Asp	ctc Leu	gcc Ala	gtc Val	gcc Ala 4365	tac Tyr	gcc Ala	gcc Ala	cgg Arg	52819
atc 4370	cgg Ile	ggc Arg	gag Gly	gcg Glu	cgg Ala 4375	gcc Ala	tgg Trp	acc Thr	gcc Ala	ctg Leu 4380	ccc Pro	gtc Val	cag Gln	tac Tyr	52864
gcc 4385	gac Ala	tac Asp	gcc Tyr	ctg Ala	tgg Leu 4390	cag Gln	cgc Arg	gac Asp	gtg Val	ctc Leu 4395	ggc Gly	tcc Ser	gag Glu	cac His	52909
gac 4400	ccg Asp	gac Pro	agc Asp	gcc Ser	atc Ala 4405	tcc Ser	cag Gln	cag Gln	gtc Val	gcc Ala 4410	cat His	tgg Trp	cgg Arg	cga Arg	52954
cag 4415	ctc Gln	gcc Leu	gga Ala	gcc Gly	ccc Ala 4420	gac Asp	gag Glu	cta Leu	ccg Pro	ctg Leu 4425	ccc Pro	gcc Ala	gac Asp	cac His	52999
ccc	cgt	ccc	gcc	gag	gcc	acc	tac	cgc	ggc	cac	acc	gtg	gag	ttc	53044

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Pro 4430	Arg	Pro	Ala	Glu	Ala 4435	Thr	Tyr	Arg	Gly	His 4440	Thr	Val	Glu	Phe	
acc Thr 4445	gtg Val	ccc Pro	ccg Pro	gcc Ala	gtg Val 4450	cac His	cac His	caa Gln	ctc Leu	gcc Ala 4455	gaa Glu	ctc Leu	gcc Ala	cgc Arg	53089
cgc Arg 4460	aac Asn	ggc Gly	gtc Val	acc Thr	gtc Val 4465	ttc Phe	atg Met	acc Thr	gtg Val	caa Gln 4470	acc Thr	gcc Ala	ctc Leu	gcc Ala	53134
gtc Val 4475	ctc Leu	ctg Leu	tcc Ser	aaa Lys	ctc Leu 4480	ggc Gly	gcc Ala	ggc Gly	acc Thr	gac Asp 4485	atc Ile	ccc Pro	atc Ile	ggc Gly	53179
gtc Val 4490	gcc Ala	gtc Val	gcc Ala	gga Gly	cgc Arg 4495	acc Thr	gac Asp	ccc Pro	acc Thr	ctc Leu 4500	gac Asp	aac Asn	ctc Leu	atc Ile	53224
ggc Gly 4505	ttc Phe	ttc Phe	gtc Val	aac Asn	acc Thr 4510	ctc Leu	gtc Val	cta Leu	cgc Arg	acc Thr 4515	gac Asp	ctg Leu	acc Thr	ggc Gly	53269
aac Asn 4520	ccc Pro	acc Thr	atc Ile	acc Thr	gac Asp 4525	ctg Leu	ctg Leu	cac His	cgc Arg	acc Thr 4530	cgc Arg	gac Asp	acc Thr	acc Thr	53314
ctg Leu 4535	cac His	gcc Ala	ttc Phe	acc Thr	cac His 4540	caa Gln	gac Asp	gtc Val	ccc Pro	ttc Phe 4545	gaa Glu	aaa Lys	ctc Leu	gtc Val	53359
gaa Glu 4550	gac Asp	ctc Leu	gca Ala	ccc Pro	acc Thr 4555	cgc Arg	tcc Ser	ctc Leu	gcc Ala	cgc Arg 4560	cac His	ccc Pro	ctc Leu	ttc Phe	53404
cag Gln 4565	gtc Val	atg Met	atg Met	acc Thr	ctg Leu 4570	cag Gln	agc Ser	acc Thr	ggg Gly	cgg Arg 4575	gcc Ala	ggc Gly	gag Glu	gcg Ala	53449
gcc Ala 4580	gag Glu	ctg Leu	ccc Pro	ggc Gly	ctg Leu 4585	gag Glu	acg Thr	gcg Ala	gtg Val	ctg Leu 4590	tcg Ser	ccg Pro	ggc Gly	ggc Gly	53494
gtc Val 4595	gcc Ala	gcc Ala	aag Lys	gtc Val	gac Asp 4600	ctc Leu	gac Asp	ctg Leu	agc Ser	ctg Leu 4605	agc Ser	gag Glu	gcg Ala	tac Tyr	53539
gac Asp 4610	gac Asp	gac Asp	ggc Gly	cgc Arg	ccg Pro 4615	gcg Ala	ggt Gly	ctc Leu	gcc Ala	gga Gly 4620	acg Thr	ctc Leu	gtc Val	gcg Ala	53584
gcg Ala 4625	gcc Ala	gac Asp	ctg Leu	ttc Phe	gag Glu 4630	cac His	ggc Gly	acc Thr	gcc Ala	gag Glu 4635	cgg Arg	atc Ile	gcc Ala	ggt Gly	53629
tac Tyr 4640	ctc Leu	gcg Ala	cgg Arg	ctg Leu	ctc Leu 4645	gcc Ala	gtg Val	ctg Leu	ccc Pro	gcc Ala 4650	gat Asp	ccc Pro	ggc Gly	gcc Ala	53674
cgg Arg 4655	ctc Leu	ggc Gly	gac Asp	gtg Val	gac Asp 4660	ctg Leu	ctc Leu	gac Asp	ggc Gly	gag Glu 4665	gag Glu	cgg Arg	cgg Arg	ctg Leu	53719
gtc	ctc	acc	ggc	tgg	aac	gac	acg	acg	gcg	gcc	gtg	ccg	gcg	gtg	53764

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Val 4670	Leu	Thr	Gly	Trp	Asn 4675	Asp	Thr	Thr	Ala	Ala 4680	Val	Pro	Ala	Val	
gcg 4685	gtg	ccc	gag	ctg	atc 4690	gag	cgg	cgt	gcc	gcc 4695	gcc	gaa	ccg	gag	53809
Ala	Val	Pro	Glu	Leu	Ile	Glu	Arg	Arg	Ala	Ala	Ala	Glu	Pro	Glu	
gcc 4700	ggc	gcc	gtc	tgg	tgc 4705	ggc	gac	acg	cac	ctg 4710	cgg	tac	ggc	gag	53854
Ala	Gly	Ala	Val	Trp	Cys	Gly	Asp	Thr	His	Leu	Arg	Tyr	Gly	Glu	
ctg 4715	aac	gcc	cgc	gcg	aac 4720	cgc	ctc	gcc	cgg	ctg 4725	ctc	gtg	gag	cgc	53899
Leu	Asn	Ala	Arg	Ala	Asn	Arg	Leu	Ala	Arg	Leu	Leu	Val	Glu	Arg	
ggg 4730	gcg	gga	ccc	gag	tgc 4735	atc	gtc	gcg	gtc	tgc 4740	ctg	gaa	cgc	tgc	53944
Gly	Ala	Gly	Pro	Glu	Ser	Ile	Val	Ala	Val	Cys	Leu	Glu	Arg	Ser	
gcc 4745	gac	ctc	gtc	gtc	acg 4750	ctg	ctg	gcc	gtg	ctg 4755	aag	acc	ggg	gcc	53989
Ala	Asp	Leu	Val	Val	Thr	Leu	Leu	Ala	Val	Leu	Lys	Thr	Gly	Ala	
gcc 4760	tac	ctg	ccg	atc	gat 4765	ccc	gga	tat	ccg	gcc 4770	ggc	cgg	atc	gcc	54034
Ala	Tyr	Leu	Pro	Ile	Asp	Pro	Gly	Tyr	Pro	Ala	Gly	Arg	Ile	Ala	
tac 4775	atg	ctc	gcc	gac	gcc 4780	cgc	ccc	gcg	ctg	ctc 4785	gtc	acg	agc	ccg	54079
Tyr	Met	Leu	Ala	Asp	Ala	Arg	Pro	Ala	Leu	Leu	Val	Thr	Ser	Pro	
gcg 4790	gtc	gcc	tcc	ggt	gac 4795	agc	ctc	ccg	gac	ggc 4800	ggc	gcg	caa	cgg	54124
Ala	Val	Ala	Ser	Gly	Asp	Ser	Leu	Pro	Asp	Gly	Gly	Ala	Gln	Arg	
atc 4805	gtc	ctc	ggc	gat	ccg 4810	gac	acc	gcg	gcg	gcc 4815	ctc	gac	ggc	ctc	54169
Ile	Val	Leu	Gly	Asp	Pro	Asp	Thr	Ala	Ala	Ala	Leu	Asp	Gly	Leu	
gcc 4820	ggc	acc	gac	ctg	ctc 4825	gtc	tgc	gag	cgg	cgc 4830	ggc	gtc	acg	cac	54214
Ala	Gly	Thr	Asp	Leu	Leu	Val	Ser	Glu	Arg	Arg	Gly	Val	Thr	His	
ccg 4835	gca	cat	ccg	gcg	tac 4840	gtc	atc	tac	acc	tcc 4845	ggg	tgc	acc	ggg	54259
Pro	Ala	His	Pro	Ala	Tyr	Val	Ile	Tyr	Thr	Ser	Gly	Ser	Thr	Gly	
cgc 4850	ccc	aag	ggt	gtc	gtc 4855	gtg	ccg	cac	ggg	gcc 4860	ctc	acg	aat	ttc	54304
Arg	Pro	Lys	Gly	Val	Val	Val	Pro	His	Gly	Ala	Leu	Thr	Asn	Phe	
gtg 4865	gcg	gcg	atg	agc	gac 4870	cgg	ctc	gcg	ctg	ggc 4875	gcc	ggc	gac	cgg	54349
Val	Ala	Ala	Met	Ser	Asp	Arg	Leu	Ala	Leu	Gly	Ala	Gly	Asp	Arg	
ctg 4880	ctc	gcg	gtc	acc	acg 4885	gtc	gcc	ttc	gac	atc 4890	cac	gtc	ctg	gag	54394
Leu	Leu	Ala	Val	Thr	Thr	Val	Ala	Phe	Asp	Ile	His	Val	Leu	Glu	
ctc 4895	tac	gtg	ccg	ctg	gtc 4900	ggc	ggc	gcc	gga	gtg 4905	gtc	gtc	gcc	gag	54439
Leu	Tyr	Val	Pro	Leu	Val	Gly	Gly	Ala	Gly	Val	Val	Val	Ala	Glu	
gac	gcc	gtg	gtg	cgc	gac	ccg	gcc	gcg	gtc	gcc	gcg	ctc	ctc	gac	54484

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Asp 4910	Ala	Val	Val	Arg	Asp 4915	Pro	Ala	Ala	Val	Ala 4920	Ala	Leu	Leu	Asp	
cgg 4925	cac His	gcc Ala	gtg Val	acg Thr	atc Ile 4930	gtg Val	cag Gln	gcc Ala	acc Thr	cgg 4935	gcg Ala	ctg Leu	tgg Trp	cag Gln	54529
gcg 4940	ctg Ala	ctc Leu	gcc Leu	ggg Ala	cac His 4945	gcc Ala	gac Asp	gcc Ala	gtc Val	cgc 4950	gac Asp	gtg Val	cgg Arg	ctg Leu	54574
ctc 4955	gtc Val	ggc Gly	ggc Gly	gag Glu	gcg Ala 4960	ctg Leu	ccg Pro	ccc Pro	gcg Ala	ctc 4965	gcc Ala	ggc Gly	cgg Arg	atg Met	54619
gcc 4970	gcg Ala	gcc Ala	ggt Gly	cgc Arg	ggt Gly 4975	gtc Val	acc Thr	aac Asn	ctg Leu	tac 4980	ggc Gly	ccg Pro	acc Thr	gag Glu	54664
gtc 4985	acc Val	gtg Thr	tgg Val	gcg Ala	acc Thr 4990	gtc Val	gcc Ala	gac Asp	ctc Leu	ggc 4995	gcg Ala	agc Ser	ccg Pro	gcc Ala	54709
ggg 5000	ccg Pro	gtg Val	ccg Pro	atc Ile	ggc Gly 5005	acg Thr	ccc Pro	ctg Leu	cgc Arg	aac 5010	acc Thr	cgc Arg	gcc Ala	ttc Phe	54754
gtt 5015	ctc Val	gac Leu	gac Asp	gcg Ala	ctg Leu 5020	cgc Arg	ccg Pro	gtg Val	ccg Pro	ccg 5025	ggc Gly	gtg Val	ccg Pro	ggc Gly	54799
gag 5030	ctc Glu	tac Leu	ctc Tyr	gcc Ala	ggc Gly 5035	gat Asp	cag Gln	ctc Leu	gcg Ala	cgg 5040	ggc Gly	tac Tyr	cac His	ggc Gly	54844
cgg 5045	gcc Arg	ggc Ala	ctg Gly	acc Leu	gcc Ala 5050	gag Glu	cgc Arg	ttc Phe	gtg Val	gcc 5055	gac Asp	ccg Pro	ttc Phe	ggc Gly	54889
cgc 5060	ggt Arg	gag Gly	cgg Glu	atg Met	tac Tyr 5065	cgc Arg	acc Thr	ggc Gly	gac Asp	cgg 5070	gtc Val	cgg Arg	tgg Trp	acc Thr	54934
cgc 5075	ggc Arg	ggc Gly	agc Ser	ctg Leu	gag Glu 5080	ttc Phe	ctg Leu	ggc Gly	cgc Arg	gtc 5085	gac Asp	gac Asp	cag Gln	gtc Val	54979
aag 5090	atc Lys	cgc Ile	ggt Arg	ttc Phe	cgg Arg 5095	atc Ile	gag Glu	ctg Leu	ggc Gly	gag 5100	gtc Val	gag Glu	gcg Ala	gcg Ala	55024
ctt 5105	gcc Leu	gcg Ala	ttc Ala	ggg Phe	ccg Gly 5110	gtg Val	gcc Ala	cgg Arg	gcg Ala	gcc 5115	gcc Ala	gcc Ala	gtc Val	cgc Arg	55069
gag 5120	gac Glu	gtg Asp	ccg Val	ggc Pro	gac Gly 5125	cgc Arg	cgg Arg	ctc Leu	gtc Val	ggc 5130	tat Tyr	gtc Val	gtg Val	ccg Pro	55114
gcc 5135	gcc Ala	ggc Ala	gag Gly	ccg Glu	gag Glu 5140	ccc Pro	gac Asp	ccg Pro	gcg Ala	gcg 5145	gtc Val	cgc Arg	gcg Ala	cac His	55159
gtc	gcc	gcc	cag	ctg	ccc	gcc	tac	atg	gtc	ccg	tcg	gcg	gtc	gtg	55204

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Val 5150	Ala	Ala	Gln	Leu	Pro 5155	Ala	Tyr	Met	Val	Pro 5160	Ser	Ala	Val	Val	
gtc Val 5165	ctg	ccc	gac	ctg	ccg Pro 5170	ctg	acc	gcg	aac	ggc Gly 5175	aag	ctc	gac	cgc	55249
aag Lys 5180	gcg	ctg	ccg	gca	ccc Pro 5185	gac	tac	ggc	gcc	gcc Ala 5190	tcc	gcc	ggc	cgg	55294
gca Ala 5195	ccg	gcc	gac	gag	cgc Arg 5200	gag	gcg	ctc	atc	tgc Cys 5205	gcg	gtg	ttc	gcc	55339
gag Glu 5210	acg	ctc	ggc	gtg	acc Thr 5215	gac	gtc	gca	gcc	gat Asp 5220	gcc	gac	ttc	ttc	55384
gcc Ala 5225	ctg	ggc	ggc	cat	tgc Ser 5230	ctg	ctg	gcc	gtg	tgc Ser 5235	ctg	gtc	gaa	cgg	55429
ttg Leu 5240	cgc	gag	cac	ggc	atc Ile 5245	gcg	gtt	ccg	gtc	cgc Arg 5250	gcc	ctg	ttc	cag	55474
tgc Ser 5255	ggc	acc	ccc	gag	ggc Gly 5260	ctg	gcc	gcc	gcg	gcc Ala 5265	cgc	gcc	gag	ggc	55519
ccg Pro 5270	gac	gag	ccg	gcc	gtg Val 5275	ccg	gcc	aac	ggc	atc Ile 5280	ccg	gac	ggc	gcc	55564
acc Thr 5285	gcg	ctc	acg	ccg	gcg Ala 5290	atg	ctc	acc	ctc	gtc Val 5295	gac	ctc	gac	gcc	55609
gag Glu 5300	gag	atc	gcc	cgg	gtg Val 5305	gtc	gcc	gcc	gtg	ccc Pro 5310	ggc	ggg	gcc	gcg	55654
aac Asn 5315	gtg	gcc	gac	gtc	tat Tyr 5320	ccg	ctc	gcg	ccg	ctg Leu 5325	cag	gag	ggg	ctg	55699
ctc Leu 5330	ttc	cac	agc	ctg	atg Met 5335	gac	ggc	ggc	gac	gac Asp 5340	gtg	tac	gtg	ctg	55744
ccg Pro 5345	gcc	gtc	ctc	gga	ttc Phe 5350	gat	tgc	cgg	tcc	cgc Arg 5355	ctc	gac	gcg	ttc	55789
ctg Leu 5360	gcc	gcg	ctg	caa	cac His 5365	gtg	atc	gac	cgg	cac His 5370	gac	acg	tac	cgg	55834
acc Thr 5375	gcg	gtg	gtg	cac	gac Asp 5380	ggc	ctg	cgc	gag	ccg Pro 5385	gtg	cag	gtg	gtc	55879
tgg	cgc	cgg	gcc	acg	ctg	ccg	gtc	gag	gag	gtg	acc	ctg	acc	gcg	55924

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Trp 5390	Arg	Arg	Ala	Thr	Leu 5395	Pro	Val	Glu	Glu	Val 5400	Thr	Leu	Thr	Ala	
ggc Gly 5405	gcc Ala	gac Asp	ccg Pro	gtg Val	cag Gln 5410	gaa Glu	ctg Leu	ctc Leu	gcc Ala	acc Thr 5415	gcg Ala	ccg Pro	gtc Val	gag Glu	55969
ttc Phe 5420	gcg Ala	ctc Leu	gac Asp	cgg Arg	gcc Ala 5425	ccg Pro	ctg Leu	ctg Leu	cgg Arg	gtg Val 5430	cgc Arg	tgc Cys	gcg Ala	gcc Ala	56014
cgg Arg 5435	ccg Pro	gac Asp	ggc Gly	ggc Gly	gga Gly 5440	tgg Trp	ctg Leu	gcg Ala	ctg Leu	ctc Leu 5445	cag Gln	atc Ile	cac His	cac His	56059
ctc Leu 5450	gtc Val	cag Gln	gac Asp	cac His	gcc Ala 5455	acg Thr	ctc Leu	gac Asp	gcg Ala	atg Met 5460	ctc Leu	gcc Ala	gag Glu	atc Ile	56104
cag Gln 5465	gcc Ala	ttc Phe	ctc Leu	gcc Ala	ggc Gly 5470	cgc Arg	ggc Gly	ggc Gly	gag Glu	ctc Leu 5475	gcc Ala	gcg Ala	ccc Pro	gag Glu	56149
ccg Pro 5480	ttc Phe	cgc Arg	ggc Gly	tac Tyr	gtc Val 5485	gcc Ala	cgg Arg	gcc Ala	cgg Arg	ctc Leu 5490	gcc Ala	ggc Gly	gcg Ala	ccg Pro	56194
gcc Ala 5495	gag Glu	cac His	cgg Arg	gcg Ala	tac Tyr 5500	ttc Phe	tcc Ser	cgg Arg	ctg Leu	ctc Leu 5505	ggt Gly	gac Asp	gtc Val	acc Thr	56239
gag Glu 5510	agc Ser	acc Thr	gcc Ala	ccg Pro	tac Tyr 5515	ggg Gly	ctg Leu	acc Thr	gac Asp	gcg Ala 5520	cgg Arg	gac Asp	gcg Ala	cgg Arg	56284
ccg Pro 5525	acc Thr	gga Gly	aag Lys	gcc Ala	cat His 5530	cgc Arg	gag Glu	gtc Val	gac Asp	cgg Arg 5535	cgg Arg	ctg Leu	gcc Ala	gcc Ala	56329
cgc Arg 5540	gtg Val	cgg Arg	gcc Ala	acg Thr	gcg Ala 5545	agc Ser	gag Glu	ctg Leu	ggc Gly	gtg Val 5550	agc Ser	ccg Pro	gcg Ala	acc Thr	56374
gtg Val 5555	ttc Phe	cat His	ctc Leu	gcc Ala	tgg Trp 5560	gcg Ala	cgg Arg	gtg Val	ctg Leu	ggc Gly 5565	acg Thr	ctt Leu	gcc Ala	ggc Gly	56419
cgc Arg 5570	gac Asp	gac Asp	gtc Val	gtc Val	ttc Phe 5575	ggc Gly	acc Thr	gtc Val	ctg Leu	ctg Leu 5580	gga Gly	cgg Arg	ctc Leu	ggc Gly	56464
gcc Ala 5585	ggc Gly	gcc Ala	cgg Arg	tcc Ser	ggg Gly 5590	cga Arg	gcc Ala	ctc Leu	ggc Gly	ccg Pro 5595	ttc Phe	atc Ile	aac Asn	acc Thr	56509
ctg Leu 5600	ccg Pro	gtg Val	cgg Arg	gtg Val	cgc Arg 5605	ctc Leu	gcc Ala	gcc Ala	gcc Ala	ggc Gly 5610	agc Ser	cgc Arg	gag Glu	acg Thr	56554
ctg Leu 5615	gcc Ala	ggg Gly	ctg Leu	cgc Arg	gcc Ala 5620	cag Gln	ctg Leu	gcc Ala	gag Glu	ctg Leu 5625	atc Ile	ggt Gly	cac His	gag Glu	56599
cac	gcc	ccg	ctg	acg	ctg	gca	cag	gcc	gcg	agc	ggc	gtg	ccc	ggc	56644

APPENDIX A

His 5630	Ala	Pro	Leu	Thr	Leu 5635	Ala	Gln	Ala	Ala	Ser 5640	Gly	Val	Pro	Gly	
ggg Gly 5645	acg Thr	cgc Pro	ctg Leu	ttc Phe	acc Thr 5650	tcg Ser	atc Ile	ctc Leu	aac Asn	tac Tyr 5655	cgg Arg	cag Gln	ggg Gly	cgc Pro	56689
ccc Pro 5660	gcc Ala	ggc Gly	gac Asp	gac Asp	acc Thr 5665	ggc Gly	gac Asp	gag Glu	gag Glu	atc Ile 5670	gag Glu	ggc Gly	atc Ile	gag Glu	56734
ctg Leu 5675	ctc Leu	tcc Ser	acc Thr	gag Glu	gaa Glu 5680	cgc Arg	agc Ser	aac Asn	tac Tyr	cgc Pro 5685	gtg Val	gcc Ala	gtc Val	tcc Ser	56779
gtc Val 5690	gac Asp	gac Asp	gac Asp	ggg Gly	tcg Ser 5695	ggc Gly	ttc Phe	cgc Arg	ctc Leu	acc Thr 5700	gtc Val	gac Asp	ggc Ala	gcc Ala	56824
cag Gln 5705	cgc Pro	ggc Ala	gca Ala	cgc Pro	gac Asp 5710	cgc Arg	gtc Val	ggc Ala	gag Glu	ctg Leu 5715	ctg Leu	cac His	acc Thr	tgc Cys	56869
ctg Leu 5720	cac His	cgc Arg	ctc Leu	acc Thr	gac Asp 5725	ggc Ala	ctc Leu	ggc Ala	ggc Gly	acc Thr 5730	ccc Pro	gac Asp	gtg Val	gag Glu	56914
cgc Pro 5735	ggc Ala	cgc Arg	atc Ile	gac Asp	gtg Val 5740	ctc Leu	ggc Gly	gag Glu	ggc Ala	gag Glu 5745	cgc Arg	cgc Arg	gag Glu	gtt Val	56959
ctc Leu 5750	cgc Arg	acg Thr	cgc Pro	aac Asn	ggc Ala 5755	acg Thr	ggc Ala	cgc Arg	gac Asp	gtg Val 5760	ggc Ala	ggc Ala	ggc Ala	acg Thr	57004
ctg Leu 5765	ccc Pro	ggc Ala	atc Ile	gtc Val	ggc Gly 5770	gag Glu	tgg Trp	ggc Ala	cgc Arg	acc Thr 5775	acg Thr	ccc Pro	ggc Gly	ggc Ala	57049
acc Thr 5780	ggc Ala	gtc Val	acc Thr	ggc Ala	gag Glu 5785	aac Asn	gac Asp	cgc Arg	ctc Leu	acc Thr 5790	tac Tyr	ggc Ala	gag Glu	ctg Leu	57094
gac Asp 5795	gct Ala	cgc Arg	ggc Ala	aac Asn	cgc Arg 5800	ctg Leu	ggc Ala	cgc Arg	tcg Ser	ctg Leu 5805	atc Ile	ggc Ala	cgc Arg	ggg Gly	57139
gtc Val 5810	ggg Gly	ccc Pro	ggg Gly	ggc Ala	gtc Val 5815	gtc Val	ggc Gly	atg Met	ctc Leu	ctg Leu 5820	ccc Pro	cgc Arg	tcg Ser	cgc Pro	57184
ggc Gly 5825	ctg Leu	gtg Val	gtg Val	ggc Ala	atg Met 5830	ctg Leu	ggc Ala	atc Ile	gtc Val	aag Lys 5835	ggc Ala	ggc Gly	ggc Gly	ggc Ala	57229
tac Tyr 5840	ctg Leu	cgc Pro	ctc Leu	gat Asp	ccc Pro 5845	ggc Gly	tat Tyr	cgc Pro	ggc Ala	ccc Pro 5850	cgc Arg	ctg Leu	ggc Ala	cgc Arg	57274
atg Met 5855	gtc Val	gag Glu	gac Asp	ggc Ala	ggc Ala 5860	cgc Pro	ggc Ala	ctg Leu	ctg Leu	ctg Leu 5865	ggc Ala	acg Thr	ggc Ala	ggc Gly	57319
acc	ggc	gac	ggc	gtg	ccc	ggc	ggg	cgc	cag	cga	ctg	ctg	ctg	gac	57364

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Thr 5870	Ala	Asp	Ala	Val	Pro 5875	Ala	Gly	Pro	Gln	Arg 5880	Leu	Leu	Leu	Asp	
gac Asp 5885	ccc Pro	ggc Gly	acc Thr	gcg Ala	gcg Ala 5890	gag Glu	ctg Leu	gcc Ala	cgg Arg	ctg Leu 5895	gac Asp	ggc Gly	gac Asp	cgc Pro	57409
atc Ile 5900	cgc Arg	gac Asp	gag Glu	gag Glu	cgc Arg 5905	acc Thr	cac His	ccg Pro	ctg Leu	cgc Arg 5910	ccc Pro	ggg Gly	cac His	ccg Pro	57454
gcg Ala 5915	tac Tyr	ctg Leu	atg Met	ttc Phe	acc Thr 5920	tcc Ser	gga Gly	tcg Ser	acg Thr	gga Gly 5925	cgc Arg	ccg Pro	aag Lys	ggc Gly	57499
gtg Val 5930	ctg Leu	gtg Val	ccg Pro	cac His	gcc Ala 5935	ggc Gly	atc Ile	gac Asp	cgc Arg	atg Met 5940	gtc Val	cgc Arg	cgc Arg	tcc Ser	57544
acc Thr 5945	tgc Cys	ctt Leu	cag Gln	ctg Leu	gca Ala 5950	ccg Pro	gac Asp	gac Asp	gtc Val	ctg Leu 5955	ccg Pro	cac His	ctc Leu	tgc Ser	57589
tcg Ser 5960	gtg Val	tcg Ser	ttc Phe	gac Asp	gcg Ala 5965	gcc Ala	acc Thr	ttc Phe	gag Glu	atc Ile 5970	tgg Trp	ggc Gly	gcg Ala	ctg Leu	57634
ctc Leu 5975	aac Asn	ggc Gly	gcc Ala	acc Thr	ctc Leu 5980	gcc Ala	gtc Val	gca Ala	ccg Pro	gcg Ala 5985	gag Glu	acg Thr	ctc Leu	tgc Ser	57679
gtg Val 5990	gcc Ala	gag Glu	ctg Leu	cgg Arg	gcc Ala 5995	ttc Phe	ctc Leu	gcg Ala	gac Asp	cgg Arg 6000	ggc Gly	gcc Ala	acc Thr	aag Lys	57724
ctg Leu 6005	ttc Phe	ctc Leu	acc Thr	acc Thr	ggc Gly 6010	ctg Leu	ctg Leu	cac His	gag Glu	gtg Val 6015	atc Ile	gac Asp	gcc Ala	gac Asp	57769
gtg Val 6020	acc Thr	gcc Ala	ctc Leu	gcc Ala	ggc Gly 6025	ctg Leu	aag Lys	gcg Ala	gtc Val	tac Tyr 6030	acc Thr	ggc Gly	ggt Gly	gac Asp	57814
gtg Val 6035	ctc Leu	tcc Ser	ccg Pro	gcg Ala	cac His 6040	tgc Cys	cgg Arg	tcg Ser	ctt Leu	ctc Leu 6045	gac Asp	cgg Arg	gtg Val	ccc Pro	57859
ggc Gly 6050	ctc Leu	gag Glu	ctc Leu	tac Tyr	aac Asn 6055	gcc Ala	tac Tyr	ggc Gly	ccg Pro	acc Thr 6060	gag Glu	aac Asn	acc Thr	acc Thr	57904
atc Ile 6065	acc Thr	acc Thr	ctt Leu	cat His	cgc Arg 6070	gta Val	cgc Arg	ccg Pro	gag Glu	gac Asp 6075	ctc Leu	gac Asp	gcg Ala	ggc Gly	57949
acg Thr 6080	ggc Gly	gta Val	ccg Pro	atc Ile	ggc Gly 6085	gtg Val	ccc Pro	atc Ile	tcc Ser	gac Asp 6090	acc Thr	cgg Arg	gtg Val	tac Tyr	57994
gtg Val 6095	ctc Leu	gac Asp	gac Asp	gcg Ala	ctg Leu 6100	cgg Arg	ccg Pro	gtg Val	ccc Pro	gtg Val 6105	ggg Gly	gtc Val	gcc Ala	ggt Gly	58039
gag	ctc	tac	acc	tcc	ggc	atc	ggg	ctg	gcg	cac	ggc	tac	gcc	gga	58084

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Glu 6110	Leu	Tyr	Thr	Ser	Gly 6115	Ile	Gly	Leu	Ala	His 6120	Gly	Tyr	Ala	Gly	
cga 6125	ccg Pro	gcg Ala	ccg Pro	acc Thr	gcg Ala 6130	gag Glu	cgc Arg	ttc Phe	gtg Val	gcg Ala 6135	tgc Cys	ccg Pro	ttc Phe	gca Ala	58129
ccc 6140	ggt Gly	gag Glu	cgg Arg	atg Met	tac Tyr 6145	cgc Arg	acc Thr	ggc Gly	gac Asp	ctg Leu 6150	gtg Val	cgc Arg	tgg Trp	acc Thr	58174
gcc 6155	gac Asp	ggg Gly	cgc Arg	ctg Leu	ctg Leu 6160	ttc Phe	gcc Ala	ggc Gly	cgc Arg	gcc Ala 6165	gac Asp	aac Asn	cag Gln	gtc Val	58219
aag 6170	atc Ile	cgg Arg	ggc Gly	ttc Phe	cgg Arg 6175	gtg Val	gag Glu	ccg Pro	ggc Gly	gag Glu 6180	ctc Leu	gag Glu	acg Thr	gtc Val	58264
ctg 6185	tcc Ser	gga Gly	cat His	ccg Pro	gcc Ala 6190	gtg Val	gca Ala	cgg Arg	gcc Ala	gcg Ala 6195	gtg Val	ctg Leu	gcg Ala	cgc Arg	58309
gag 6200	gac Asp	acg Thr	ccc Pro	ggc Gly	gcc Ala 6205	aag Lys	cgg Arg	ctg Leu	gtc Val	gca Ala 6210	tac Tyr	gtc Val	gtg Val	ccg Pro	58354
gcc 6215	cgg Arg	ccg Pro	gac Asp	gag Glu	gac Asp 6220	ggg Gly	gac Asp	gcg Ala	ctg Leu	gcc Ala 6225	gag Glu	tcc Ser	gtg Val	cgc Arg	58399
gcc 6230	tac Tyr	gcc Ala	gcc Ala	cgg Arg	cag Gln 6235	gtg Val	ccc Pro	gac Asp	tat Tyr	ctg Leu 6240	atg Met	ccc Pro	gcc Ala	gcg Ala	58444
acg 6245	gtg Val	gtg Val	ctc Leu	ccg Pro	gac Asp 6250	ctg Leu	ccg Pro	ttg Leu	acc Thr	agc Ser 6255	agc Ser	ggc Gly	aag Lys	gtc Val	58489
gac 6260	cgg Arg	gcc Ala	gcg Ala	ctg Leu	ccg Pro 6265	gcg Ala	ccg Pro	gac Asp	gtg Val	ccg Pro 6270	ggc Gly	ggg Gly	ccg Pro	ggc Gly	58534
cgc 6275	gcc Ala	gcc Ala	ggc Gly	acg Thr	ctc Leu 6280	acc Thr	gag Glu	gag Glu	atc Ile	ctc Leu 6285	tgc Cys	ggc Gly	gtc Val	ttc Phe	58579
gcc 6290	cag Gln	gtg Val	ctc Leu	ggg Gly	ctg Leu 6295	ccc Pro	acg Thr	gtc Val	ggc Gly	gtc Val 6300	gac Asp	gac Asp	gac Asp	ttc Phe	58624
ttc 6305	gcc Ala	agc Ser	ggc Gly	ggc Gly	cat His 6310	tgc Ser	ctg Leu	ctg Leu	gcc Ala	acc Thr 6315	cgg Arg	ctg Leu	gtc Val	agc Ser	58669
cgg 6320	ctg Leu	cgt Arg	gcc Ala	gtc Val	ttc Phe 6325	ggg Gly	gcc Ala	gag Glu	ctg Leu	ccg Pro 6330	atc Ile	cgg Arg	gcc Ala	gtc Val	58714
ttc 6335	gag Glu	gcg Ala	ccg Pro	acg Thr	ccg Pro 6340	gcc Ala	acg Thr	ctg Leu	gcc Ala	acc Thr 6345	cgg Arg	ctc Leu	ggc Gly	gca Ala	58759
tcc	gcg	ccg	cgg	cga	ctc	gcg	ctc	ggc	gaa	cgc	gcc	cgg	ccg	gag	58804

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Ser 6350	Ala	Pro	Arg	Arg	Leu 6355	Ala	Leu	Gly	Glu	Arg 6360	Ala	Arg	Pro	Glu	
aac 6365	gtg	ccc	ctg	tcg	tac 6370	gcc	cag	cgg	cgg	ctg 6375	tgg	ttc	ctc	gac	58849
Asn 6365	Val	Pro	Leu	Ser	Tyr 6370	Ala	Gln	Arg	Arg	Leu 6375	Trp	Phe	Leu	Asp	
cgc 6380	ctg	gag	gga	cag	gac 6385	ggc	acc	tac	acc	atc 6390	ccg	ctc	acc	gtg	58894
Arg 6380	Leu	Glu	Gly	Gln	Asp 6385	Gly	Thr	Tyr	Thr	Ile 6390	Pro	Leu	Thr	Val	
cgg 6395	ctc	gac	ggg	ccg	gtc 6400	gac	cgg	gcg	gcg	ctc 6405	gcc	gcg	gcc	ctg	58939
Arg 6395	Leu	Asp	Gly	Pro	Val 6400	Asp	Arg	Ala	Ala	Leu 6405	Ala	Ala	Ala	Leu	
cgc 6410	gac	gtc	ctg	gag	cgc 6415	cac	gag	gtg	ctg	cgg 6420	acc	gtc	ttc	ccg	58984
Arg 6410	Asp	Val	Leu	Glu	Arg 6415	His	Glu	Val	Leu	Arg 6420	Thr	Val	Phe	Pro	
ctc 6425	gtg	gac	ggc	gaa	ccc 6430	gtc	cag	cgg	gtg	ctg 6435	ccg	gtg	cac	gac	59029
Leu 6425	Val	Asp	Gly	Glu	Pro 6430	Val	Gln	Arg	Val	Leu 6435	Pro	Val	His	Asp	
acc 6440	ggc	ttc	acg	ctc	ggc 6445	ggc	ggt	gac	gtc	gcg 6450	gcc	gcc	gac	ctc	59074
Thr 6440	Gly	Phe	Thr	Leu	Gly 6445	Gly	Gly	Asp	Val	Ala 6450	Ala	Ala	Asp	Leu	
ggc 6455	gcc	gcg	gtc	gcc	gag 6460	gcc	acg	gcc	ggc	acc 6465	ttc	gat	ctg	gcc	59119
Gly 6455	Ala	Ala	Val	Ala	Glu 6460	Ala	Thr	Ala	Gly	Thr 6465	Phe	Asp	Leu	Ala	
gcc 6470	gag	atc	ccg	gtg	cgc 6475	gcc	tgg	ctg	ttc	cgc 6480	gcc	ggg	ccc	gag	59164
Ala 6470	Glu	Ile	Pro	Val	Arg 6475	Ala	Trp	Leu	Phe	Arg 6480	Ala	Gly	Pro	Glu	
gac 6485	cac	acc	ctc	gtg	ctg 6490	ctg	gtg	cac	cac	gtc 6495	gcc	ggc	gac	ggc	59209
Asp 6485	His	Thr	Leu	Val	Leu 6490	Leu	Val	His	His	Val 6495	Ala	Gly	Asp	Gly	
tgg 6500	tcg	atg	acg	ccg	ctg 6505	gcc	cgc	gac	atc	gcc 6510	acc	gcc	tac	gac	59254
Trp 6500	Ser	Met	Thr	Pro	Leu 6505	Ala	Arg	Asp	Ile	Ala 6510	Thr	Ala	Tyr	Asp	
agc 6515	cgc	cgc	gag	agc	cgg 6520	gcg	ccg	caa	tgg	gag 6525	ccg	ctg	ccc	gtg	59299
Ser 6515	Arg	Arg	Glu	Ser	Arg 6520	Ala	Pro	Gln	Trp	Glu 6525	Pro	Leu	Pro	Val	
cag 6530	tac	gcc	gac	tac	gcg 6535	ctc	tgg	cag	cgc	gaa 6540	ctg	ctc	ggc	gcc	59344
Gln 6530	Tyr	Ala	Asp	Tyr	Ala 6535	Leu	Trp	Gln	Arg	Glu 6540	Leu	Leu	Gly	Ala	
gag 6545	gac	gat	ccg	gag	agt 6550	ttg	ctg	tcg	cgg	cag 6555	ctg	gcc	tac	tgg	59389
Glu 6545	Asp	Asp	Pro	Glu	Ser 6550	Leu	Leu	Ser	Arg	Gln 6555	Leu	Ala	Tyr	Trp	
cgg 6560	gac	gcg	ctc	gac	ggc 6565	gta	ccg	gag	gag	ctg 6570	gac	ctc	ccg	gcc	59434
Arg 6560	Asp	Ala	Leu	Asp	Gly 6565	Val	Pro	Glu	Glu	Leu 6570	Asp	Leu	Pro	Ala	
gac 6575	cgg	ccg	cgc	ccg	gcc 6580	gag	gcc	acg	cac	cgg 6585	gga	cac	gag	gtg	59479
Asp 6575	Arg	Pro	Arg	Pro	Ala 6580	Glu	Ala	Thr	His	Arg 6585	Gly	His	Glu	Val	
ccc	gtg	cgg	gtg	ccg	gcc	gag	gtg	cac	cgg	cgc	ctg	gcc	gag	ctg	59524

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Pro 6590	Val	Arg	Val	Pro	Ala 6595	Glu	Val	His	Arg	Arg 6600	Leu	Ala	Glu	Leu	
gcc Ala 6605	cgg Arg	tcc Ser	gag Glu	ggc Gly	gtg Val 6610	acc Thr	gtg Val	ttc Phe	atg Met	gtg Val 6615	ctg Leu	cag Gln	gcc Ala	gcc Ala	59569
ttc Phe 6620	ggc Gly	acg Thr	ctg Leu	ctg Leu	tcc Ser 6625	cgc Arg	ctc Leu	ggc Gly	gcc Ala	ggc Gly 6630	gcc Ala	gac Asp	atc Ile	ccg Pro	59614
atc Ile 6635	ggc Gly	acg Thr	gcg Ala	gtc Val	gcc Ala 6640	ggc Gly	cgc Arg	acc Thr	gac Asp	cag Gln 6645	gcc Ala	ctc Leu	gac Asp	gag Glu	59659
ctc Leu 6650	gtc Val	ggg Gly	ttc Phe	ttc Phe	gtc Val 6655	aac Asn	acg Thr	ctg Leu	gtg Val	atc Ile 6660	cgg Arg	gcc Ala	gac Asp	ctg Leu	59704
tcc Ser 6665	ggc Gly	gac Asp	ccc Pro	acc Thr	ttc Phe 6670	cgg Arg	gag Glu	ctg Leu	ctc Leu	ggc Gly 6675	cgg Arg	gtg Val	cgc Arg	gcc Ala	59749
acc Thr 6680	ggc Gly	ctg Leu	tcc Ser	gcc Ala	tac Tyr 6685	gag Glu	cac His	cag Gln	gac Asp	gtc Val 6690	ccg Pro	ttc Phe	gag Glu	cgg Arg	59794
ctc Leu 6695	gtc Val	gag Glu	gtg Val	ctg Leu	gca Ala 6700	ccg Pro	gcc Ala	cga Arg	tcg Ser	ctc Leu 6705	gcc Ala	cgg Arg	cac His	ccg Pro	59839
ctc Leu 6710	ttc Phe	cag Gln	gtc Val	atg Met	ctc Leu 6715	acg Thr	ctg Leu	cag Gln	aac Asn	acc Thr 6720	ggc Gly	cgc Arg	gcg Ala	gac Asp	59884
gcc Ala 6725	ggc Gly	gac Asp	cag Gln	gcc Ala	gtc Val 6730	ccg Pro	ccg Pro	gcc Ala	gcc Ala	gga Gly 6735	tcg Ser	gcc Ala	gcg Ala	gcc Ala	59929
aag Lys 6740	ttc Phe	gac Asp	ctc Leu	gag Glu	atc Ile 6745	agc Ser	atc Ile	gcg Ala	gag Glu	acg Thr 6750	ttc Phe	gcc Ala	gcc Ala	gat Asp	59974
ggc Gly 6755	gag Glu	ccg Pro	gcc Ala	ggg Gly	ctc Leu 6760	agc Ser	ggc Gly	gtt Val	ctc Leu	atc Ile 6765	gcc Ala	gcc Ala	gcc Ala	gac Asp	60019
ctg Leu 6770	ttc Phe	gag Glu	ccg Pro	gcc Ala	acc Thr 6775	gcg Ala	gcc Ala	gcg Ala	ttc Phe	gcc Ala 6780	gaa Glu	cgg Arg	ctg Leu	gcc Ala	60064
cgc Arg 6785	gtg Val	ctg Leu	gcc Ala	gcg Ala	gcc Ala 6790	ggc Gly	gcc Ala	gat Asp	ccg Pro	cgg Arg 6795	ctg Leu	cgg Arg	gtc Val	agc Ser	60109
cag Gln 6800	gtc Val	gac Asp	atc Ile	ctc Leu	agc Ser 6805	gcc Ala	gag Glu	gag Glu	cgc Arg	gag Glu 6810	gcc Ala	gtc Val	ctg Leu	tcc Ser	60154
ggc Gly 6815	ggc Gly	aac Asn	ggc Gly	ggc Gly	acc Thr 6820	gcg Ala	ccg Pro	gtt Val	ccc Pro	gtc Val 6825	acc Thr	acc Thr	gtc Val	ccg Pro	60199
gcg	ctc	ttc	gcc	gag	cag	gcc	cgc	cgg	acc	ccg	ggc	gcg	gtg	gcg	60244

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Ala 6830	Leu	Phe	Ala	Glu	Gln 6835	Ala	Arg	Arg	Thr	Pro 6840	Gly	Ala	Val	Ala	
gcg 6845	ctg	agc	gag	ggg	atg 6850	tcg	ctc	acc	tac	gcc 6855	gat	ctc	gcc	gcc	60289
Ala	Leu	Ser	Glu	Gly	Met	Ser	Leu	Thr	Tyr	Ala	Asp	Leu	Ala	Ala	
cgc 6860	gtg	aac	cgg	ctc	gcc 6865	cgg	cac	ctg	gtg	agc 6870	ctc	ggc	gcc	gga	60334
Arg	Val	Asn	Arg	Leu	Ala	Arg	His	Leu	Val	Ser	Leu	Gly	Ala	Gly	
ccg 6875	gag	acc	gtc	gtc	ggg 6880	atc	gcc	atg	agc	cgc 6885	ggc	ctc	gac	atg	60379
Pro	Glu	Thr	Val	Val	Gly	Ile	Ala	Met	Ser	Arg	Gly	Leu	Asp	Met	
ctg 6890	gtg	gcg	gtc	ctc	gcg 6895	gtc	ggg	cag	gcc	ggc 6900	gcc	gcc	tac	ctg	60424
Leu	Val	Ala	Val	Leu	Ala	Val	Gly	Gln	Ala	Gly	Ala	Ala	Tyr	Leu	
ccc 6905	gtc	gac	ccg	tcc	tac 6910	ccg	gac	gag	cgc	aag 6915	gag	ttc	atg	ctc	60469
Pro	Val	Asp	Pro	Ser	Tyr	Pro	Asp	Glu	Arg	Lys	Glu	Phe	Met	Leu	
acc 6920	gac	gcc	ggc	gcc	gcg 6925	tat	gtg	ctc	acc	ttg 6930	gcc	tcg	gac	gcc	60514
Thr	Asp	Ala	Gly	Ala	Ala	Tyr	Val	Leu	Thr	Leu	Ala	Ser	Asp	Ala	
gac 6935	cgc	gtg	ccg	ccg	gga 6940	acc	ccg	gcc	gcc	gcc 6945	gtg	gtc	ctg	gac	60559
Asp	Arg	Val	Pro	Pro	Gly	Thr	Pro	Ala	Ala	Ala	Val	Val	Leu	Asp	
gag 6950	ccc	gtg	acg	gcc	gcg 6955	cgg	atc	gcc	ggg	ctc 6960	gat	ccg	gcc	gac	60604
Glu	Pro	Val	Thr	Ala	Ala	Arg	Ile	Ala	Gly	Leu	Asp	Pro	Ala	Asp	
ctg 6965	acc	gac	gcc	gac	cgg 6970	gtg	gcg	ccg	ctg	ctg 6975	ccg	gcc	cac	cgg	60649
Leu	Thr	Asp	Ala	Asp	Arg	Val	Ala	Pro	Leu	Leu	Pro	Ala	His	Arg	
gcg 6980	tac	gtc	atc	tac	acc 6985	tcc	gga	tcc	acc	ggc 6990	cgg	ccc	aag	ggg	60694
Ala	Tyr	Val	Ile	Tyr	Thr	Ser	Gly	Ser	Thr	Gly	Arg	Pro	Lys	Gly	
gtc 6995	gcc	gtc	gag	cac	cgc 7000	acc	gtg	gtc	aac	ctg 7005	ctg	tcc	tgg	gcg	60739
Val	Ala	Val	Glu	His	Arg	Thr	Val	Val	Asn	Leu	Leu	Ser	Trp	Ala	
gcc 7010	ggg	cgg	ttc	ggc	ggc 7015	gcc	gac	ttc	gcc	cgg 7020	acg	ctc	gcc	gcc	60784
Ala	Gly	Arg	Phe	Gly	Gly	Ala	Asp	Phe	Ala	Arg	Thr	Leu	Ala	Ala	
acc 7025	tcg	ctc	aac	ttc	gac 7030	gtc	tcg	gtc	ttc	gag 7035	atc	ttc	ggg	ccg	60829
Thr	Ser	Leu	Asn	Phe	Asp	Val	Ser	Val	Phe	Glu	Ile	Phe	Gly	Pro	
ctg 7040	gtg	tcc	ggc	ggc	agc 7045	atc	gag	atc	gtc	acc 7050	gac	ctg	ctc	gcc	60874
Leu	Val	Ser	Gly	Gly	Ser	Ile	Glu	Ile	Val	Thr	Asp	Leu	Leu	Ala	
ctg 7055	gcc	gac	ccg	gcc	tcc 7060	ccg	gcc	tgg	gag	gcc 7065	agc	ctg	gtc	agc	60919
Leu	Ala	Asp	Pro	Ala	Ser	Pro	Ala	Trp	Glu	Ala	Ser	Leu	Val	Ser	
ggc	gtg	ccg	tcg	gcg	ttc	tcg	cgg	gtc	ctc	gac	cgg	ggc	gac	atc	60964

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Gly 7070	Val	Pro	Ser	Ala	Phe 7075	Ser	Arg	Val	Leu	Asp 7080	Arg	Gly	Asp	Ile	
gcc 7085	gcg Ala	cgc Arg	acc Thr	cgc Arg	agc Ser 7090	gtg Val	gtg Val	ctg Leu	gcc Ala	ggc Gly 7095	gag Glu	gcg Ala	ctg Leu	acc Thr	61009
gcc 7100	gac Asp	gtg Val	gtg Val	aac Asn	gcc Ala 7105	acc Thr	cgt Arg	gcc Ala	gcc Ala	ctg Leu 7110	ccc Pro	ggt Gly	gtc Val	cgg Arg	61054
gtg 7115	gcc Ala	aac Asn	atc Ile	tac Tyr	ggg Gly 7120	cgc Pro	acc Thr	gag Glu	gcg Ala	acc Thr 7125	gtc Val	tac Tyr	tgc Ser	acc Thr	61099
gcc 7130	tgg Trp	cac His	acc Thr	gac Asp	cgg Arg 7135	gac Asp	gtg Val	acc Thr	ggc Gly	ggc Gly 7140	gcc Ala	gcg Ala	cgc Pro	atc Ile	61144
ggg 7145	cgc Arg	ccg Pro	gtc Val	acc Thr	aac Asn 7150	acc Thr	cgc Arg	gcc Ala	tac Tyr	gtc Val 7155	ctc Leu	gac Asp	gac Asp	cgt Arg	61189
ctc 7160	acg Thr	ccg Pro	gtg Val	ccg Pro	ccg Pro 7165	ggc Gly	gtg Val	gtg Val	ggc Gly	gag Glu 7170	ctc Leu	tac Tyr	ctg Leu	gcc Ala	61234
ggc 7175	gcc Ala	cag Gln	ctg Leu	gcc Ala	cgc Arg 7180	ggc Gly	tat Tyr	ctg Leu	ggc Gly	cgc Arg 7185	ccc Pro	ggc Gly	ctg Leu	acc Thr	61279
ggc 7190	gag Glu	cgc Arg	ttc Phe	gtg Val	gcc Ala 7195	tgc Cys	ccg Pro	ttc Phe	ggc Gly	ccg Pro 7200	ggc Gly	ggg Gly	gag Glu	cgc Arg	61324
atg 7205	tac Met	cgc Arg	acc Thr	ggc Gly	gac Asp 7210	cgc Arg	gtc Val	cgc Arg	tgg Trp	aac Asn 7215	gcc Ala	gac Asp	ggc Gly	gac Asp	61369
ctg 7220	gtc Val	ttc Phe	gcc Ala	ggc Gly	cgc Arg 7225	gcc Ala	gac Asp	gac Asp	cag Gln	gtc Val 7230	aag Lys	atc Ile	cgc Arg	ggc Gly	61414
ttc 7235	cgt Arg	atc Ile	gag Glu	ccg Pro	ggc Gly 7240	gag Glu	gtg Val	cag Gln	gcc Ala	gtc Val 7245	gtg Val	gcg Ala	cgc Arg	cag Gln	61459
gcc 7250	ggc Ala	gtg Val	gcc Ala	cgc Arg	ggc Ala 7255	gtg Val	gtg Val	ctg Leu	gcc Ala	cgc Arg 7260	agc Ser	gac Asp	tgc Ser	ccc Pro	61504
ggc 7265	gac Asp	gcc Ala	cgc Arg	ctg Leu	gtc Val 7270	gcg Ala	tac Tyr	gtc Val	gtg Val	ccg Pro 7275	gcc Ala	gac Asp	cgc Arg	gac Asp	61549
gcc 7280	gac Asp	cgc Arg	cgc Arg	ggc Ala	ctg Leu 7285	gcc Ala	gcc Ala	acc Thr	gtc Val	cgc Arg 7290	tgc Ser	gac Asp	acc Thr	gcg Ala	61594
cgc 7295	gag Glu	ctg Leu	ccg Pro	ggc Ala	tac Tyr 7300	ctg Leu	gtg Val	ccg Pro	ggc Ala	gcc Ala 7305	gtg Val	gtg Val	gtc Val	ctc Leu	61639
gac	gag	ctg	ccc	gtc	acg	gcc	aac	ggc	aag	ctc	gat	cgc	cgt	gcg	61684

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Asp 7310	Glu	Leu	Pro	Val	Thr 7315	Ala	Asn	Gly	Lys	Leu 7320	Asp	Arg	Arg	Ala	
ctg 7325	ccc Pro	gcg Ala	ccc Pro	ggc Gly	ctg Leu 7330	gcc Ala	gag Glu	gcg Ala	ggc Gly	agc Ser 7335	ggc Gly	cgc Arg	ggg Gly	ccg Pro	61729
gtc 7340	acc Thr	cac His	cgc Arg	gag Glu	gag Glu 7345	gtg Val	ctc Leu	tgc Cys	gag Glu	gtc Val 7350	ttc Phe	gcc Ala	cag Gln	gtg Val	61774
ctc 7355	ggc Gly	ctg Leu	ccc Pro	tgc Ser	gtc Val 7360	ggc Gly	gtg Val	gac Asp	gac Asp	gac Asp 7365	ttc Phe	ttc Phe	ggc Ala	ctc Leu	61819
ggc 7370	ggg Gly	cac His	tcc Ser	ctg Leu	ctg Leu 7375	gcc Ala	gtc Val	tgc Ser	ctg Leu	gtg Val 7380	gag Glu	cag Gln	ctg Leu	cgc Arg	61864
cgc 7385	cgc Arg	ggc Gly	gtg Val	acg Thr	gtc Val 7390	ggg Gly	gtg Val	cgc Arg	gcg Ala	ctc Leu 7395	ttc Phe	cag Gln	acg Thr	ccc Pro	61909
acg 7400	gtc Val	gcc Ala	ggc Gly	ctg Leu	gcc Ala 7405	gag Glu	gcg Ala	gcc Ala	gcg Ala	ccc Pro 7410	acc Thr	acg Thr	gtc Val	gcc Ala	61954
gtt 7415	ccg Pro	ccc Pro	aac Asn	ctc Leu	atc Ile 7420	ccc Pro	gag Glu	gac Asp	gcg Ala	cgg Arg 7425	cac His	atc Ile	acg Thr	ccc Pro	61999
ggc 7430	ctg Leu	ctg Leu	ccg Pro	ctc Leu	gtg Val 7435	gag Glu	ctg Leu	gag Glu	cag Gln	gcc Ala 7440	gag Glu	atc Ile	gac Asp	cag Gln	62044
gtc 7445	gtg Val	gcc Ala	act Thr	gtg Val	gac Asp 7450	ggc Gly	ggc Gly	gcc Ala	gcc Ala	aac Asn 7455	gtg Val	gcc Ala	gac Asp	atc Ile	62089
tat 7460	ccg Pro	ctc Leu	gcg Ala	ccg Pro	ctc Leu 7465	cag Gln	cag Gln	ggc Gly	atg Met	ctc Leu 7470	ttc Phe	cac His	cac His	ctc Leu	62134
atg 7475	gcc Ala	ggc Gly	gac Asp	gac Asp	ggc Gly 7480	gag Glu	gac Asp	gtc Val	tac Tyr	atc Ile 7485	atg Met	ccc Pro	gcg Ala	gtc Val	62179
gtg 7490	gag Val	ttc Glu	gac Phe	tgc Ser	gcg Ala 7495	gac Asp	cgc Arg	ttc Phe	ggc Gly	gcc Ala 7500	ttc Phe	gtc Val	gac Asp	gcc Ala	62224
ctc 7505	cag Leu	cac Gln	gtg His	atc Val	gac Ile 7510	cgc Arg	aac Asn	gac Asp	gtc Val	tac Tyr 7515	cgc Arg	acc Thr	ggc Gly	gtg Val	62269
gtc 7520	tgg Val	gac Trp	ggc Asp	ctg Gly	cgc Leu 7525	gag Glu	ccg Pro	gtg Val	cag Gln	gtg Val 7530	gtc Val	tgg Trp	cgc Arg	cgg Arg	62314
gcg 7535	ccc Ala	ctg Pro	ccc Leu	gtg Pro	acc Val 7540	gag Glu	gtg Val	acg Thr	ctc Leu	gat Asp 7545	ccg Pro	gcc Ala	ggc Gly	ggc Gly	62359
gat	ccc	gcc	gcc	cag	ctg	cac	gcc	gcc	gcc	ggc	gcc	cgg	atg	gac	62404

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Asp 7550	Pro	Ala	Ala	Gln	Leu 7555	His	Ala	Ala	Ala	Gly 7560	Ala	Arg	Met	Asp	
ctg Leu 7565	aac Asn	cgg Arg	gcg Ala	ccc Pro	ctg Leu 7570	ctc Leu	gac Asp	ctc Leu	cac His	gtg Val 7575	gcc Ala	gcc Ala	cgg Arg	ccc Pro	62449
gag Glu 7580	gac Asp	ggc Gly	caa Gln	cgg Arg	ctg Leu 7585	gcc Ala	ctg Leu	ctg Leu	cgg Arg	gtt Val 7590	cac His	cac His	atg Met	gtg Val	62494
cag Gln 7595	gac Asp	cac His	atg Met	ggg Gly	ctc Leu 7600	gag Glu	gtg Val	ctc Leu	ctc Leu	ggc Gly 7605	gag Glu	gtg Val	cag Gln	gcg Ala	62539
ttc Phe 7610	ctg Leu	gcc Ala	ggc Gly	cgc Arg	ggc Gly 7615	gac Asp	gag Glu	ctt Leu	ccc Pro	gat Asp 7620	ccg Pro	ctg Leu	ccg Pro	ttc Phe	62584
cgc Arg 7625	gac Asp	ttc Phe	gtg Val	gcg Ala	cag Gln 7630	acc Thr	cgc Arg	ggc Gly	ggg Gly	gtg Val 7635	ccg Pro	gag Glu	gcc Ala	gag Glu	62629
cac His 7640	cgg Arg	cgg Arg	ttc Phe	ttc Phe	gcc Ala 7645	ggg Gly	ctg Leu	ctg Leu	ggc Gly	gac Asp 7650	gtc Val	acc Thr	gag Glu	ccc Pro	62674
acc Thr 7655	gcg Ala	ccg Pro	tac Tyr	ggc Gly	ctg Leu 7660	ctc Leu	gac Asp	gtg Val	cac His	cgc Arg 7665	gac Asp	ggc Gly	gtc Val	ggc Gly	62719
ctg Leu 7670	gtg Val	cgc Arg	cag Gln	gaa Glu	cgc Arg 7675	ccg Pro	ctc Leu	gac Asp	ggg Gly	gag Glu 7680	gtg Val	gtg Val	gcc Ala	cgg Arg	62764
ctc Leu 7685	cgc Arg	gcc Ala	gtg Val	ggc Ala	cgc Arg 7690	ccg Arg	ctc Leu	ggg Gly	gtg Val	agc Ser 7695	ccg Pro	gcg Ala	acc Thr	gtc Val	62809
atg Met 7700	cac His	gtc Val	gcc Ala	tgg Trp	gcg Ala 7705	cgc Arg	gtg Val	ctc Leu	ggc Gly	gtg Val 7710	atc Ile	tcc Ser	ggc Gly	cgc Arg	62854
gac Asp 7715	gac Asp	gtg Val	gtc Val	ttc Phe	ggc Gly 7720	acg Thr	ctg Leu	ctg Leu	ctg Leu	ggc Gly 7725	cgg Arg	ttc Phe	agc Ser	acc Thr	62899
ggc Gly 7730	gcc Ala	gac Asp	cgg Arg	gtg Val	ccc Pro 7735	ggc Gly	ccg Pro	ttc Phe	atc Ile	aac Asn 7740	acg Thr	ctt Leu	ccg Pro	gtg Val	62944
cgg Arg 7745	gcc Ala	cgg Arg	ctc Leu	ggc Gly	ggc Gly 7750	acg Thr	ggc Gly	gcc Ala	gcg Ala	gcg Ala 7755	gcg Ala	gtg Val	gcg Ala	gag Glu	62989
atg Met 7760	cgc Arg	cgg Arg	ctg Leu	ctg Leu	gcc Ala 7765	gag Glu	ctg Leu	ctc Leu	gag Glu	cac His 7770	gag Glu	cac His	gcg Ala	ccg Pro	63034
ctg Leu 7775	acc Thr	acg Thr	gcg Ala	cag Gln	cag Gln 7780	gcc Ala	agc Ser	gga Gly	ctc Leu	tcc Ser 7785	gga Gly	aac Asn	ctc Leu	ccg Pro	63079
ctg	ttc	acg	gcg	ctg	ttc	aac	tat	cgg	cac	aac	acg	tcg	ccg	ggt	63124

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Leu 7790	Phe	Thr	Ala	Leu	Phe 7795	Asn	Tyr	Arg	His	Asn 7800	Thr	Ser	Pro	Gly	
gcg 7805	gac Ala	ccg Asp	tcg Pro	ccc Ser	gcg Pro	gcc Ala	ggc Gly	ccg Pro	acc Thr	gag Glu	ggc Gly	atc Ile	cgc Arg	ccg Pro	63169
gtc 7820	tcc Val	atg Ser	cgg Met	gag Arg	cgc Glu	acc Thr	aac Asn	tat Tyr	ccg Pro	atc Ile	tcg Ser	gtg Val	gcg Ala	gtg Val	63214
gac 7835	gac Asp	gac Asp	ggc Gly	gag Glu	ggc Gly	ctc Leu	ggc Gly	gtg Val	gcg Ala	gtc Val	aac Asn	gcg Ala	atc Ile	ccg Pro	63259
ccg 7850	gtg Val	cgg Arg	ccg Pro	gag Glu	gcg Ala	gtg Val	tgc Cys	gag Glu	ctc Leu	gtg Val	gcg Ala	acc Thr	gcg Ala	acc Thr	63304
gag 7865	agc Glu	ctg Ser	acc Leu	tcg Thr	gcg Ser	ctg Ala	gag Leu	ctg Leu	ttc Phe	ctc Leu	gac Asp	ggc Gly	ggt Gly	ccg Pro	63349
gac 7880	acc Asp	gcg Thr	gtc Ala	ggc Val	gag Gly	ctc Leu	gac Asp	gtg Val	ctg Leu	ccg Pro	ccg Pro	ggg Gly	gag Glu	cgg Arg	63394
tcg 7895	cgg Ser	ctg Arg	ctg Leu	gtg Leu	gag Val	tgg Trp	aac Asn	gac Asp	acg Thr	gct Ala	cgt Arg	ccg Pro	gtg Val	gtg Val	63439
gag 7910	tcg Glu	tcg Ser	gtg Ser	ccg Val	gcg Pro	ttg Leu	ttc Phe	gcc Ala	gag Glu	cgg Arg	gtg Val	gcg Ala	gcc Ala	gcg Ala	63484
ccg 7925	gat Pro	gcg Asp	gtc Ala	gcg Val	gtg Ala	gtg Val	ggc Gly	gag Glu	ggt Gly	gtg Val	tcg Ser	tgg Trp	tcc Ser	tat Tyr	63529
cgc 7940	gag Arg	ctt Glu	gac Leu	cgt Asp	cgc Arg	tcg Ser	gat Asp	gtg Val	ctg Leu	gcg Ala	cgg Arg	agt Ser	ctg Leu	gtg Val	63574
gcg 7955	gcg Ala	ggt Ala	gtg Gly	ggc Val	ctg Gly	gag Leu	tcg Glu	ccg Ser	gtg Pro	gtg Val	gtg Val	gcc Ala	ctc Leu	gaa Glu	63619
cgg 7970	tcc Arg	gcc Ser	gac Ala	gtg Asp	ctg Val	acc Thr	gcg Ala	ttt Phe	ctc Leu	gcc Ala	gtc Val	gcg Ala	aag Lys	gcc Ala	63664
ggc 7985	ggt Gly	gtc Val	ttc Phe	gtt Val	ccg Pro	gtg Val	gac Asp	ttg Leu	tcc Ser	tgg Trp	ccg Pro	cag Gln	acg Thr	cgt Arg	63709
atc 8000	gat Ile	gcg Asp	gtg Ala	atc Val	gcg Ile	gac Ala	agc Asp	cgg Ser	ccg Arg	gtt Pro	ctg Leu	gtg Val	ttg Leu	gac Asp	63754
agc 8015	gtg Ser	gat Val	ctg Asp	ccg Leu	gcc Pro	gcg Ala	gag Glu	gcc Ala	gac Asp	ctg Leu	ccg Pro	cgg Arg	gtg Val	ccg Pro	63799
gcc	ggt	gcg	ggc	gtg	tat	cgg	atg	tac	acc	tcg	ggt	tcc	acg	ggc	63844

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Ala 8030	Gly	Ala	Gly	Val	Tyr 8035	Arg	Met	Tyr	Thr	Ser 8040	Gly	Ser	Thr	Gly	
cgg Arg 8045	ccc Pro	aag Lys	ggg Gly	gtg Val	gtg Val 8050	acc Thr	acc Thr	cac His	cag Gln	aat Asn 8055	ctg Leu	gtg Val	gat Asp	ctg Leu	63889
gcg Ala 8060	acc Thr	gac Asp	acg Thr	tgt Cys	tgg Trp 8065	gga Gly	tcg Ser	acg Thr	ccg Pro	cgg Arg 8070	gtg Val	ttg Leu	ttc Phe	cac His	63934
gcc Ala 8075	ccg Pro	cac His	gcc Ala	ttc Phe	gac Asp 8080	gcg Ala	tcg Ser	tcg Ser	tac Tyr	gaa Glu 8085	atc Ile	tgg Trp	gtg Val	ccg Pro	63979
ttg Leu 8090	ttg Leu	aat Asn	ggc Gly	ggc Gly	acg Thr 8095	gtc Val	gtg Val	gtg Val	gcc Ala	ccg Pro 8100	cgg Arg	cgc Arg	agc Ser	atc Ile	64024
gac Asp 8105	gcc Ala	acc Thr	gtc Val	ctg Leu	agg Arg 8110	gac Asp	ctg Leu	gtc Val	cgc Arg	ggg Gly 8115	cat His	gag Glu	ttg Leu	acg Thr	64069
cac His 8120	gtg Val	cat His	gtg Val	acc Thr	gcg Ala 8125	ggc Gly	ctg Leu	ttg Leu	cgg Arg	gtg Val 8130	ctg Leu	gac Asp	ccg Pro	tcg Ser	64114
tgc Cys 8135	ttc Phe	gcg Ala	ggg Gly	ctg Leu	acc Thr 8140	gag Glu	gtt Val	ttg Leu	acc Thr	ggc Gly 8145	ggg Gly	gat Asp	gcc Ala	gtg Val	64159
tcg Ser 8150	gcg Ala	gag Glu	gcg Ala	gtg Val	cgc Arg 8155	cgg Arg	gtc Val	aag Lys	gaa Glu	gcg Ala 8160	aac Asn	ccg Pro	ggg Gly	ctg Leu	64204
cgg Arg 8165	gtg Val	cgc Arg	cag Gln	ttg Leu	tac Tyr 8170	ggc Gly	ccg Pro	acc Thr	gag Glu	gtg Val 8175	acc Thr	ttg Leu	tgc Cys	gcc Ala	64249
acg Thr 8180	cag Gln	cat His	ctg Leu	ctg Leu	gat Asp 8185	gac Asp	ggg Gly	gtg Val	ccg Pro	atc Ile 8190	ggg Gly	ccg Arg	ccg Pro	ttg Leu	64294
gac Asp 8195	aac Asn	acc Thr	cgc Arg	gtc Val	tac Tyr 8200	gtt Val	ctc Leu	gac Asp	gac Asp	ctc Leu 8205	ctg Leu	cgg Arg	ccg Pro	gtc Val	64339
ccg Pro 8210	acg Thr	ggg Gly	gtg Val	gtg Val	ggg Gly 8215	gag Glu	ctg Leu	tat Tyr	gtg Val	gcc Ala 8220	ggg Gly	tcg Ser	ggg Gly	ctg Leu	64384
gcg Ala 8225	cgt Arg	ggc Gly	tat Tyr	gcg Ala	ggc Gly 8230	atg Met	ccg Pro	ggg Gly	ttg Leu	acg Thr 8235	gcc Ala	gag Glu	cga Arg	ttt Phe	64429
gtc Val 8240	gcc Ala	gac Asp	ccg Pro	ttc Phe	tcg Ser 8245	gtg Val	ggg Gly	ggg Gly	cgc Arg	ctc Leu 8250	tac Tyr	cgc Arg	acc Thr	ggg Gly	64474
gat Asp 8255	ctg Leu	gtc Val	cgg Arg	tgg Trp	acc Thr 8260	gac Asp	gac Asp	ggg Gly	gtg Val	ctg Leu 8265	cac His	ttc Phe	gcc Ala	ggg Gly	64519
cgg	gcc	gat	gat	cag	gtg	aag	atc	cgc	ggc	tat	cgg	gtg	gag	ccg	64564

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Arg 8270	Ala	Asp	Asp	Gln	Val 8275	Lys	Ile	Arg	Gly	Tyr 8280	Arg	Val	Glu	Pro	
ggc Gly 8285	gag Glu	gtt Val	gaa Glu	gcg Ala	gtt Val 8290	ctg Leu	gct Ala	caa Gln	cac His	ccc Pro 8295	gac Asp	gtc Val	agc Ser	cag Gln	64609
gtc Val 8300	gcg Ala	gtc Val	gtc Val	gtc Val	cga Arg 8305	gag Glu	gac Asp	gcg Ala	cca Pro	ggg Gly 8310	gat Asp	aag Lys	cgg Arg	ctg Leu	64654
gtc Val 8315	gcc Ala	tat Tyr	gtc Val	gtc Val	ggc Gly 8320	ggg Gly	gat Asp	gtc Val	gag Glu	gcg Ala 8325	tat Tyr	gcg Ala	cag Gln	gag Glu	64699
cgc Arg 8330	ctt Leu	ccc Pro	ggc Gly	tac Tyr	atg Met 8335	gtt Val	ccg Pro	tcg Ser	gcc Ala	ttc Phe 8340	gtc Val	cat His	ctg Leu	gaa Glu	64744
gcg Ala 8345	ctg Leu	ccg Pro	ctg Leu	acc Thr	gcg Ala 8350	aac Asn	cag Gln	aag Lys	gtc Val	gac Asp 8355	cgg Arg	gcc Ala	gcc Ala	ctg Leu	64789
ccc Pro 8360	gcg Ala	ccc Pro	gag Glu	cgg Arg	gag Glu 8365	acg Thr	acg Thr	aca Thr	ccg Pro	ggg Gly 8370	aag Lys	gca Ala	ccc Pro	gcc Ala	64834
ccc Pro 8375	gga Gly	ccg Pro	ctc Leu	ggc Gly	aac Asn 8380	ctc Leu	gag Glu	gag Glu	tcg Ser	atg Met 8385	tgc Cys	cag Gln	gag Ala	ttc Phe	64879
gcc Ala 8390	gag Glu	gtg Val	ctc Leu	ggc Gly	ctc Leu 8395	gac Asp	agc Ser	gtc Val	ggc Gly	ccg Pro 8400	gac Asp	gac Asp	gac Asp	ttc Phe	64924
ttc Phe 8405	gcc Ala	ctg Leu	ggc Gly	ggc Gly	cac His 8410	tcg Ser	ctg Leu	ctc Leu	gcc Ala	gtc Val 8415	gcg Ala	ctc Leu	gtg Val	cag Gln	64969
cgg Arg 8420	ctc Leu	aag Lys	gca Ala	cgc Arg	ggg Gly 8425	gtc Val	gcc Ala	gtc Val	acg Thr	gtg Val 8430	cag Gln	gac Asp	atc Ile	atg Met	65014
gcc Ala 8435	gcg Ala	ccc Pro	acg Thr	gtc Val	tcg Ser 8440	gag Glu	ctg Leu	atg Met	ggc Gly	tcg Ser 8445	ctg Leu	agc Ser	atg Met	tcg Ser	65059
tcg Ser 8450	atc Ile	cgg Arg	gac Asp	tcg Ser	ctc Leu 8455	ggc Gly	acg Thr	ctc Leu	ctg Leu	ccg Pro 8460	atc Ile	cgg Arg	cgc Arg	acc Thr	65104
ggc Gly 8465	gag Glu	ctg Leu	ccg Pro	ccg Pro	ctg Leu 8470	ttc Phe	tgc Cys	gtc Val	cat His	ccg Pro 8475	gcc Ala	ggc Gly	ggg Gly	ctc Leu	65149
agc Ser 8480	tgg Trp	tgc Cys	tac Tyr	ctg Leu	ccg Pro 8485	ctg Leu	gcc Ala	cgg Arg	cac His	gtg Val 8490	ccg Pro	gcc Ala	gac Asp	cgc Arg	65194
ccg Pro 8495	atc Ile	tac Tyr	ggg Gly	ctg Leu	cag Gln 8500	gcg Ala	cgc Arg	ggc Gly	gcc Ala	gac Asp 8505	ggc Gly	cgg Arg	gag Glu	ccg Pro	65239
ctc	gca	ccg	tcg	ctg	cgc	gag	atg	gcc	gcc	gac	tac	gtg	agc	cgg	65284

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Leu 8510	Ala	Pro	Ser	Leu	Arg 8515	Glu	Met	Ala	Ala	Asp 8520	Tyr	Val	Ser	Arg		
atg Met 8525	cgc Arg	gcc Ala	gtg Val	cag Gln	ccc Pro 8530	gag Glu	ggg Gly	ccg Pro	tac Tyr	cac His 8535	gtg Val	ctc Leu	ggc Gly	ttc Phe	65329	
tcc Ser 8540	ttc Phe	ggc Gly	gtg Val	gcg Ala	ccc Pro 8545	gcg Ala	cac His	gag Glu	atc Ile	gcc Ala 8550	gtc Val	cag Gln	ctg Leu	cgc Arg	65374	
gag Glu 8555	cag Gln	ggc Gly	gcc Ala	gag Glu	gtc Val 8560	gtg Val	ctg Leu	gtg Val	ctc Leu	atg Met 8565	gac Asp	tcc Ser	tat Tyr	ccc Pro	65419	
atg Met 8570	gag Glu	gat Asp	gcg Ala	gag Glu	tcc Ser 8575	ggc Gly	gag Glu	cag Gln	gcg Ala	gcc Ala 8580	gac Asp	gag Glu	gag Glu	gag Glu	65464	
ctg Leu 8585	ccg Pro	tgg Trp	gag Glu	gag Glu	ctc Leu 8590	atc Ile	gag Glu	gcc Ala	gag Glu	ttc Phe 8595	ggc Gly	cgg Arg	gtg Val	ctc Leu	65509	
ggc Gly 8600	ggc Gly	ttc Phe	tcc Ser	cgc Arg	gac Asp 8605	gaa Glu	ctg Leu	gcg Ala	gcc Ala	ttc Phe 8610	ggc Ala	ggc Ala	gtc Val	ttc Phe	65554	
cgc Arg 8615	aac Asn	aac Asn	acc Thr	aag Lys	att Ile 8620	cgc Arg	gca Ala	cgc Arg	cac His	cgg Arg 8625	ctg Leu	ggc Gly	cgc Arg	ttc Phe	65599	
gac Asp 8630	ggg Gly	gac Asp	gcc Ala	ctg Leu	ctg Leu 8635	atc Ile	gcc Ala	tcg Ser	acc Thr	gac Asp 8640	agc Ser	gca Ala	ccc Pro	gac Asp	65644	
ggc Gly 8645	gag Glu	tcc Ser	aac Asn	acc Thr	tgg Trp 8650	cgg Arg	tgg Trp	gcg Ala	ccg Pro	tac Tyr 8655	atc Ile	acc Thr	ggt Gly	gag Glu	65689	
atc Ile 8660	acc Thr	cag Gln	gtg Val	gtg Val	ctc Leu 8665	ccc Pro	tgc Cys	gag Glu	cac His	acc Thr 8670	gac Asp	ctg Leu	gta Val	cgc Arg	65734	
ccc Pro 8675	gac Asp	atg Met	ctc Leu	gcg Ala	ctg Leu 8680	ctc Leu	tgg Trp	ccg Pro	gcc Ala	gtc Val 8685	gag Glu	gcg Ala	tgg Trp	cag Gln	65779	
gcc Ala 8690	ggg Gly	cgg Arg	cac His	cga Arg	cct Pro 8695	tag	tcaccacagc									
gtcagagagga ccgac																
atg Met 1	cag Gln	aag Lys	atc Ile	ccg Pro	ctc Leu	gtg Val	tgt Cys	gtg Val	ccg Pro	ttc Phe	gcc Ala	ggt Gly	gcc Ala	ggc Gly	65870	
gcc Ala	tcg Ser	ttc Phe	ttc Phe	cac His	ccg Pro	tgg Trp	gcc Ala	gag Glu	ctc Leu	gcc Ala	ggg Gly	ccg Pro	gac Asp	cgg Arg	ccg Pro	
20 25 30																
atc Ile	gtc Val	gcg Ala	ctc Leu	cag Gln	ctt Leu	ccg Pro	ggc Gly	cgg Arg	gag Glu	tgg Trp	cgg Arg	ctg Leu	ctc Leu	gac Asp	gaa Glu	65966

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35	40	45	
ccg tac gcg gac gtc gtc gcg gcg gcc gcg gac ctg gcg ctc acc gtc Pro Tyr Ala Asp Val Val Ala Ala Ala Asp Leu Ala Leu Thr Val 50 55 60			66014
gcc gac gag gtg ggc gcg ggg ggc cgg gtg gcg ctc ttc ggg cac agc Ala Asp Glu Val Gly Ala Gly Gly Arg Val Ala Leu Phe Gly His Ser 65 70 75			66062
ctc ggc gcc gtc ctc gcg tac gag ata gcg cac gcg ctg gtg cgc gac Leu Gly Ala Val Leu Ala Tyr Glu Ile Ala His Ala Leu Val Arg Asp 80 85 90 95			66110
ggc gag gtg ggc gtg gag cgg ctc ttc gtc agc ggc tcg ccc gat ccc Gly Glu Val Gly Val Glu Arg Leu Phe Val Ser Gly Ser Pro Asp Pro 100 105 110			66158
tgg acc cct cgc acc aac cgg gcg agc ggc ctg gac gac gag gag ttc Trp Thr Pro Arg Thr Asn Arg Ala Ser Gly Leu Asp Asp Glu Glu Phe 115 120 125			66206
ctg ctg cgg gtg cgc gag ttc gcc ggt tac gac cac gag gcg ctc gcc Leu Leu Arg Val Arg Glu Phe Ala Gly Tyr Asp His Glu Ala Leu Ala 130 135 140			66254
gat ccg gac atg cgc gag ctg atc ctg ccc gcg ctg cgc gcc gac gtc Asp Pro Asp Met Arg Glu Leu Ile Leu Pro Ala Leu Arg Ala Asp Val 145 150 155			66302
gag atg cac gag agc tac gtg gcg ggc agc gcc gat ccg ctg ccc gca Glu Met His Glu Ser Tyr Val Ala Gly Ser Ala Asp Pro Leu Pro Ala 160 165 170 175			66350
ccc gtc acc gcg ctg cac gcc cgc gac gac gcg ctg gtc tcc gcc gag Pro Val Thr Ala Leu His Ala Arg Asp Ala Leu Val Ser Ala Glu 180 185 190			66398
cag acg gcc ggg tgg agc aag gcc acc agc ggc ccg ttc cag ctg gtc Gln Thr Ala Gly Trp Ser Lys Ala Thr Ser Gly Pro Phe Gln Leu Val 195 200 205			66446
gag gtg gac ggc ggc cac atg tac ctc acc gag gac ccg gcc ggc ctg Glu Val Asp Gly Gly His Met Tyr Leu Thr Glu Asp Pro Ala Gly Leu 210 215 220			66494
ctg cgc ctg atc gcc gcc gac ctg gac cgt gac tga Leu Arg Leu Ile Ala Ala Asp Leu Asp Arg Asp 225 230			
acccgaggag aaccc			
gtg cgc ttg acc ggc aag acc gcc atc gtc acc ggc gcg gcc cgc Val Arg Leu Thr Gly Lys Thr Ala Ile Val Thr Gly Ala Ala Arg 1 5 10 15			66590
ggc ctc ggc cgc gcc tgc gcc gtg gcc ttc gcc gcc gag gga gcc gac Gly Leu Gly Arg Ala Cys Ala Val Ala Phe Ala Ala Glu Gly Ala Asp 20 25 30			66638
ctg gtg ctc ctg gac cgc gcg gcc gac ctg ccg ggg gtg ccc tat ccg Leu Val Leu Leu Asp Arg Ala Ala Asp Leu Pro Gly Val Pro Tyr Pro 35 40 45			66686

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ctg ggc acc gtg ggc cag ctg gag cac acc gcc gac ctc tgc cgc aag Leu Gly Thr Val Gly Gln Leu Glu His Thr Ala Asp Leu Cys Arg Lys 50 55 60	66734
cag ggc gcc gcg gtg ctc acc gtc cgg gcg gac gtg cgc gac ctc gcg Gln Gly Ala Ala Val Leu Thr Val Arg Ala Asp Val Arg Asp Leu Ala 65 70 75	66782
gcg ctc acc gcg gcg gcc gat cgg gcg atc gac cgc ttc ggc ggc atc Ala Leu Thr Ala Ala Asn Asp Arg Ala Ile Asp Arg Phe Gly Gly Ile 80 85 90 95	66830
gac gtg ctc gtc aac aac gcg ggc atc gcc gcg ccg tcc gga aag gtc Asp Val Leu Val Asn Asn Ala Gly Ile Ala Ala Pro Ser Gly Lys Val 100 105 110	66878
acc cac gag atc acc gag gac gag tgg cag ctg atg atc gac gtc gac Thr His Glu Ile Thr Glu Asp Glu Trp Gln Leu Met Ile Asp Val Asp 115 120 125	66926
ctc tcc ggc gcg tgg cgc atg acg gcg gcg gtc ggc cgg cac atg acc Leu Ser Gly Ala Trp Arg Met Thr Ala Ala Val Gly Arg His Met Thr 130 135 140	66974
gag cgc cgc tcg ggc agc atc gtc aac atc gcc tcg acg gcc ggt cag Glu Arg Arg Ser Gly Ser Ile Val Asn Ile Ala Ser Thr Ala Gly Gln 145 150 155	67022
gtc ggc tac cgg cac ttc gcc ggc tac gtc gcc gcc aag cac ggc atc Val Gly Tyr Arg His Phe Ala Gly Tyr Val Ala Ala Lys His Gly Ile 160 165 170 175	67070
gtc ggg ctc acc cgg gcc gcc gcg ctc gac tac gcg cca gcg aag gtg Val Gly Leu Thr Arg Ala Ala Ala Leu Asp Tyr Ala Pro Ala Lys Val 180 185 190	67118
cgg gtc aac gcc gtc tgc ccg ggt tcg gtg cgc gac gat ccg cag ttc Arg Val Asn Ala Val Cys Pro Gly Ser Val Arg Asp Asp Pro Gln Phe 195 200 205	67166
gag ggc cgg atg ctg tcg gag atc gcc cgg tcg ctc gac gtg ccg gtc Glu Gly Arg Met Leu Ser Glu Ile Ala Arg Ser Leu Asp Val Pro Val 210 215 220	67214
gcc gag cac gag cag acc ttc ctg cag gcg cag ccc atg aac gcc ctc Ala Glu His Glu Gln Thr Phe Leu Gln Ala Gln Pro Met Asn Ala Leu 225 230 235	67262
atc gag ccg gac gac gtc gcc aac gcc gcg atc tgg ctc gcc tcc gac Ile Glu Pro Asp Asp Val Ala Asn Ala Ala Ile Trp Leu Ala Ser Asp 240 245 250 255	67310
gaa tcg cgc cag gtc acc ggc tcc gtc gtc acg gtc gac ggc gga ttc Glu Ser Arg Gln Val Thr Gly Ser Val Val Thr Val Asp Gly Gly Phe 260 265 270	67358
acc acg cgc Thr Thr Arg	
tga acggggagaa gac	
gtg ccc aag tcc cag ccc gcc acc aga acc gcg gcg ccc ggc gcc	67428

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Val 1	Pro	Lys	Ser	Gln 5	Pro	Ala	Thr	Arg	Thr 10	Ala	Ala	Pro	Gly	Ala 15		
gcc Ala	gag Glu	tgc Cys	cac His	gcg Ala 20	ctt Leu	gcc Ala	gtg Val	cgc Arg	ctg Leu 25	gcc Ala	gga Gly	ccg Pro	atc Ile	gac Asp 30	ccg Pro	67476
gcg Ala	ccg Pro	atc Ile	gag Glu 35	cgg Arg	cgg Arg	ctc Leu	gcc Ala 40	gcc Ala	cgc Arg	atg Met	ccg Pro	ttc Phe	tgg Trp 45	cac His	gag Glu	67524
cac His	gtg Val	gcg Ala 50	gcc Ala	cgg Arg	cgc Pro	ggc Gly	gat Asp 55	gag Glu	gcc Ala	gcg Ala	ctg Leu	cgc Arg	cgc Arg	cgc Arg	gag Glu	67572
cgc Arg	gaa Glu 65	ctc Leu	gcc Ala	cgc Arg	ccg Pro	gtg Val 70	ccg Pro	ccg Pro	gag Glu	ccc Pro	ggg Gly 75	gcg Ala	cgg Arg	gcg Ala	gtg Val	67620
ctg Leu 80	ctc Leu	gcc Ala	tac Tyr	gcg Ala	gac Asp 85	ggc Gly	tgc Ser	gcc Ala	gac Asp	ctg Leu 90	gtg Val	ctg Leu	gtg Val	gcc Ala	cgc Arg 95	67668
cgc Arg	gac Asp	cgc Arg	ctg Leu	gac Asp 100	cgc Arg	gac Asp	gcg Ala	ctg Leu	atc Ile 105	gcc Ala	ctg Leu	gcc Ala	cgc Arg	ccg Pro 110	gag Glu	67716
cgg Arg	gcg Ala	ccg Pro	cgc Arg 115	ggg Gly	cgc Arg	aaa Lys	ccg Pro	gcg Ala	gaa Glu	ccg Pro	gac Asp	gcg Ala	ccg Pro	ccg Pro	ccc Pro	67764
tgc Ser	gcc Ala	gcg Ala 130	ccc Pro	gcc Ala	tgg Trp	ggc Gly	ctg Leu 135	ggc Gly	gac Asp	ggc Gly	ggc Gly	ccg Pro 140	gac Asp	gac Asp	cgg Arg	67812
tgg Trp 145	gcc Ala	gag Glu	ctg Leu	cgc Arg	gtg Val	ccg Pro	gcg Ala	cgc Arg	ggc Gly	ccg Pro	gcc Ala	gac Asp	ccg Pro	gcg Ala	cgc Arg	67860
tgg Trp 160	ccc Pro	gcc Ala	gcg Ala	ctc Leu 165	gcc Ala	aag Lys	gtc Val	ctc Leu	gcc Ala	cgg Arg 170	tac Tyr	gag Glu	ccg Pro	ggc Gly	gcg Ala 175	67908
gct Ala	gcg Ala	ggc Gly	tgc Ser	ggc Gly 180	gcg Ala	gcg Ala	gcg Ala	ggc Gly	ttg Leu 185	ggc Gly	gcg Ala	gcg Ala	gcg Ala	ggc Gly 190	tgc Ser	67956
ggg Gly	gtg Val	gcg Ala	gcg Ala 195	ggc Gly	tcc Ser	agc Ser	gcc Ala	gcc Ala	tgc Ser	ggc Gly	tcc Ser	ggc Gly	gcc Ala 205	gcc Ala	gcg Ala	68004
gtc Val	ccc Pro	ggc Gly 210	ccg Pro	gtg Val	gcg Ala	ctg Leu	gcc Ala 215	tgc Phe	gac Asp	ggc Gly	gac Asp	ctc Leu 220	gcc Ala	ccg Pro	ccg Pro	68052
gac Asp 225	gag Glu	tac Tyr	gtg Val	ccc Pro	tgc Phe	ctg Leu 230	gcg Ala	ccc Pro	acc Thr	cac His	ccg Pro	ctc Leu	acc Thr	gtg Val	cag Gln	68100
gtc Val 240	tcc Ser	cgg Arg	acg Thr	ccc Pro	ggc Gly 245	ggc Gly	ggc Gly	acc Thr	gag Glu	ctg Leu 250	cgg Arg	tgc Cys	cgc Arg	cac His	cgg Arg 255	68148
ctc	ggc	gcg	gtc	tgc	ccg	gcc	gcc	gcc	gaa	gcg	ttc	gcc	cgg	atg	ctg	68196

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Leu	Gly	Ala	Val	Ser	Pro	Ala	Ala	Ala	Glu	Ala	Phe	Ala	Arg	Met	Leu	
				260					265					270		
gcc	gcg	gca	cac	ggc	gag	ccg	ccg	gcc	gat	gac	ggc	gcg	acc	gcc	gag	68244
Ala	Ala	Ala	His	Gly	Glu	Pro	Pro	Ala	Asp	Asp	Gly	Ala	Thr	Ala	Glu	
			275					280					285			
ccc	acg	ccg	ccg	gcc	gca	ccc	gca	ccc	gca	ccc	gca	cct	gcg	ccc	gcg	68292
Pro	Thr	Pro	Pro	Ala	Ala	Pro	Ala	Pro	Ala	Pro	Ala	Pro	Ala	Pro	Ala	
		290					295					300				
ccg	ccg	gct	gcg	gct	cgc	acg	ctg	acc	ggg	ctc	ttc	gcc	gag	cag	gtc	68340
Pro	Pro	Ala	Ala	Ala	Arg	Thr	Leu	Thr	Gly	Leu	Phe	Ala	Glu	Gln	Val	
	305					310					315					
gcc	gct	cgt	ccc	acg	gcc	gtc	gcc	gtc	tgc	gac	gat	cgg	ggg	cgg	cac	68388
Ala	Ala	Arg	Pro	Thr	Ala	Val	Ala	Val	Ser	Asp	Asp	Arg	Gly	Arg	His	
320					325					330					335	
acc	tac	cgc	gag	ctc	gac	gag	tgg	tcc	ggc	cgg	ctg	gcc	cgg	ggg	ctg	68436
Thr	Tyr	Arg	Glu	Leu	Asp	Glu	Trp	Ser	Gly	Arg	Leu	Ala	Arg	Gly	Leu	
				340					345					350		
cgg	aag	gcc	ggc	gtg	cgc	gac	ggc	gac	gcg	gtc	ggc	gtc	tgc	ctc	gac	68484
Arg	Lys	Ala	Gly	Val	Arg	Asp	Gly	Asp	Ala	Val	Gly	Val	Cys	Leu	Asp	
			355					360					365			
cgc	tgc	gcc	gag	ctc	gtc	gcc	gtg	ctc	ctc	gcg	gtc	ctc	aag	gcc	ggc	68532
Arg	Ser	Ala	Glu	Leu	Val	Ala	Val	Leu	Leu	Ala	Val	Leu	Lys	Ala	Gly	
	370						375					380				
gcc	gcc	tat	gtg	ccg	ctc	gac	gcg	gcg	tac	ccg	gcc	gac	cgc	atc	gcc	68580
Ala	Ala	Tyr	Val	Pro	Leu	Asp	Ala	Ala	Tyr	Pro	Ala	Asp	Arg	Ile	Ala	
	385					390					395					
tac	acc	gtc	ggc	gac	gcc	ggc	ctc	gcg	gtc	gtg	gtc	acc	acc	tgc	gcg	68628
Tyr	Thr	Val	Gly	Asp	Ala	Gly	Leu	Ala	Val	Val	Val	Thr	Thr	Ser	Ala	
400					405				410						415	
gac	ttt	ccc	gac	gtg	gac	ggg	gtg	cgg	ctg	ctc	gcg	ccg	gag	agc	ctc	68676
Asp	Phe	Pro	Asp	Val	Asp	Gly	Val	Arg	Leu	Leu	Ala	Pro	Glu	Ser	Leu	
				420					425					430		
gcc	gag	gcc	ggc	gac	gac	ccg	ggc	atc	ccg	ctc	gcc	acc	ccg	gcc	ggc	68724
Ala	Glu	Ala	Gly	Asp	Asp	Pro	Gly	Ile	Pro	Leu	Ala	Thr	Pro	Ala	Gly	
			435					440					445			
ccg	gag	cgg	ccg	gcc	tat	gtc	atc	tac	acg	tcc	ggg	tcc	acg	ggc	cgg	68772
Pro	Glu	Arg	Pro	Ala	Tyr	Val	Ile	Tyr	Thr	Ser	Gly	Ser	Thr	Gly	Arg	
		450					455					460				
ccc	aag	ggc	gtg	gtc	gtc	ccg	cac	gcc	aac	gtg	tcc	gcg	ctg	ctc	gac	68820
Pro	Lys	Gly	Val	Val	Val	Pro	His	Ala	Asn	Val	Ser	Ala	Leu	Leu	Asp	
	465					470					475					
gcc	acg	cgc	gag	gag	tac	gcg	ctc	ggc	ccc	ggc	gac	gtg	tgg	acc	ttc	68868
Ala	Thr	Arg	Glu	Glu	Tyr	Ala	Leu	Gly	Pro	Gly	Asp	Val	Trp	Thr	Phe	
480					485					490					495	
ttc	cac	tgc	gcc	gcc	ttc	gac	ttc	tcc	gtc	tgg	gag	atc	tgg	ggc	tgc	68916
Phe	His	Ser	Ala	Ala	Phe	Asp	Phe	Ser	Val	Trp	Glu	Ile	Trp	Gly	Cys	
				500					505					510		
ctg	ctc	acc	ggc	ggc	cac	ctc	gtc	gtc	gtc	ccg	tac	tgg	gtg	tcc	cgc	68964

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Leu	Leu	Thr	Gly	Gly	His	Leu	Val	Val	Val	Pro	Tyr	Trp	Val	Ser	Arg	
			515					520					525			
tcg	ccg	gag	cag	ttc	cac	gac	ctg	ctc	gcc	gag	cgc	ggc	gtc	acc	gtg	69012
Ser	Pro	Glu	Gln	Phe	His	Asp	Leu	Leu	Ala	Glu	Arg	Gly	Val	Thr	Val	
		530					535					540				
ctc	aac	cag	acg	ccg	tcc	agc	ttc	acg	cag	ctc	gtg	gcc	gcc	gac	cgc	69060
Leu	Asn	Gln	Thr	Pro	Ser	Ser	Phe	Thr	Gln	Leu	Val	Ala	Ala	Asp	Arg	
	545					550					555					
ggg	gcg	gag	cgc	gac	ctc	gcc	gta	cgc	ctg	gtg	att	ttc	ggg	ggg	gag	69108
Gly	Ala	Glu	Arg	Asp	Leu	Ala	Val	Arg	Leu	Val	Ile	Phe	Gly	Gly	Glu	
560					565					570					575	
ccg	ctc	gac	gcc	cgg	acg	gtg	ctg	ccc	tgg	ctg	gac	cgc	cgt	ccc	gag	69156
Pro	Leu	Asp	Ala	Arg	Thr	Val	Leu	Pro	Trp	Leu	Asp	Arg	Arg	Pro	Glu	
				580					585					590		
gcg	cgc	tgc	cgg	ctg	gtc	aac	atg	ttc	ggc	atc	acc	gag	acc	acc	gtg	69204
Ala	Arg	Cys	Arg	Leu	Val	Asn	Met	Phe	Gly	Ile	Thr	Glu	Thr	Thr	Val	
			595					600					605			
cac	gtc	acg	gcg	gtc	gac	gtc	acg	cgc	gcg	gcc	gcg	ctc	gcc	ggc	tcc	69252
His	Val	Thr	Ala	Val	Asp	Val	Thr	Arg	Ala	Ala	Ala	Leu	Ala	Gly	Ser	
		610					615					620				
cgg	tcg	gtc	ggc	cgc	ccg	ctg	ccc	ggc	tgg	gcc	gtg	cgc	gtg	ctc	gac	69300
Arg	Ser	Val	Gly	Arg	Pro	Leu	Pro	Gly	Trp	Ala	Val	Arg	Val	Leu	Asp	
		625				630					635					
gag	cag	cgc	cgc	gag	gtg	ccg	ccg	ggc	gtg	ccg	ggc	gag	atc	tac	gtg	69348
Glu	Gln	Arg	Arg	Glu	Val	Pro	Pro	Gly	Val	Pro	Gly	Glu	Ile	Tyr	Val	
640					645					650					655	
ggc	ggc	gcc	ggc	gtg	gcg	atc	ggc	tac	ctc	aac	cgc	ccg	gag	ctg	acc	69396
Gly	Gly	Ala	Gly	Val	Ala	Ile	Gly	Tyr	Leu	Asn	Arg	Pro	Glu	Leu	Thr	
				660					665					670		
gcc	gag	cgg	ttc	gtc	acc	ggc	ccg	gac	ggc	cgg	cgc	tgg	tac	cgc	tcc	69444
Ala	Glu	Arg	Phe	Val	Thr	Gly	Pro	Asp	Gly	Arg	Arg	Trp	Tyr	Arg	Ser	
			675					680					685			
ggc	gac	cgc	ggc	cgg	ctg	ctg	ccc	gac	ggc	acc	ctg	gaa	cac	ctg	ggc	69492
Gly	Asp	Arg	Gly	Arg	Leu	Leu	Pro	Asp	Gly	Thr	Leu	Glu	His	Leu	Gly	
		690					695					700				
cgg	ctc	gac	gac	cag	gtc	aag	ctg	cgc	ggc	ttc	cgg	atc	gag	ctg	gac	69540
Arg	Leu	Asp	Asp	Gln	Val	Lys	Leu	Arg	Gly	Phe	Arg	Ile	Glu	Leu	Asp	
		705				710					715					
gag	atc	cgg	ggc	gtg	ctc	acc	gag	tgc	gcc	ggg	gtg	gcg	gcg	gcc	gcg	69588
Glu	Ile	Arg	Gly	Val	Leu	Thr	Glu	Cys	Ala	Gly	Val	Ala	Ala	Ala	Ala	
720					725					730					735	
gtc	gtc	atc	cgg	cgc	tcc	act	ccg	gac	gat	ccg	gcg	acc	gcg	cgg	ctc	69636
Val	Val	Ile	Arg	Arg	Ser	Thr	Pro	Asp	Asp	Pro	Ala	Thr	Ala	Arg	Leu	
				740					745					750		
gac	gcg	tac	gtg	gtc	gcc	gag	gcc	ggc	gcc	acc	ccg	ccg	gtg	gcc	gag	69684
Asp	Ala	Tyr	Val	Val	Ala	Glu	Ala	Gly	Ala	Thr	Pro	Pro	Val	Ala	Glu	
			755					760					765			
cac	gcg	gcc	cgg	atg	ctg	ccg	gcc	tac	atg	tgc	ccg	gcg	acc	ttc	acg	69732

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His	Ala	Ala	Arg	Met	Leu	Pro	Ala	Tyr	Met	Cys	Pro	Ala	Thr	Phe	Thr	
	770						775					780				
ttc	ctg	gac	gcg	ctg	ccg	atg	acg	ccg	aac	ggc	aag	gtg	gac	aag	gcc	69780
Phe	Leu	Asp	Ala	Leu	Pro	Met	Thr	Pro	Asn	Gly	Lys	Val	Asp	Lys	Ala	
	785					790					795					
gcc	ctg	ccc	gag	ccc	gcg	cgc	ccg	gcc	gcc	gac	gct	gcg	gcg	acg	ccg	69828
Ala	Leu	Pro	Glu	Pro	Ala	Arg	Pro	Ala	Ala	Asp	Ala	Ala	Ala	Thr	Pro	
800					805					810					815	
gcc	ggc	ccg	ggg	gag	gac	ggg	ctc	gcg	ggc	gac	ctg	gcc	gac	gtg	tgg	69876
Ala	Gly	Pro	Gly	Glu	Asp	Gly	Leu	Ala	Gly	Asp	Leu	Ala	Asp	Val	Trp	
				820					825					830		
cag	cag	gtc	ttc	ggc	tgc	ccg	gtg	acc	gtc	tcg	gac	aac	ttc	ttc	gac	69924
Gln	Gln	Val	Phe	Gly	Cys	Pro	Val	Thr	Val	Ser	Asp	Asn	Phe	Phe	Asp	
			835					840					845			
ctc	ggc	ggc	aac	tcg	ctg	ctc	gcc	gtg	cgg	atg	gcg	gcg	ctg	atg	cgc	69972
Leu	Gly	Gly	Asn	Ser	Leu	Leu	Ala	Val	Arg	Met	Ala	Ala	Leu	Met	Arg	
		850					855					860				
cgc	cgc	ggc	ctg	ccc	cgg	ctg	cat	ccg	cgc	acc	ctc	tac	ctg	cac	ccc	70020
Arg	Arg	Gly	Leu	Pro	Arg	Leu	His	Pro	Arg	Thr	Leu	Tyr	Leu	His	Pro	
	865					870					875					
acc	gtg	cgc	ggc	ctc	gcg	gac	gcg	ttg	cgc	tcg	gcc					
Thr	Val	Arg	Gly	Leu	Ala	Asp	Ala	Leu	Arg	Ser	Ala					
880					885					890						
tga cagtcgccctc gcccccctcga gaagtacggg																70089
agaagcacc																
atg	cga	aac	ctg	cgt	cgg	acc	acc	ggc	atc	gga						70131
Met	Arg	Asn	Leu	Arg	Arg	Thr	Thr	Gly	Ile	Gly						
1				5				10								
ctg	ctc	gcg	ctg	ctg	agc	gtg	gcg	gcg	tgc	agc	tcg	acc	ccc	gcg	gcg	70179
Leu	Leu	Ala	Leu	Leu	Ser	Val	Ala	Ala	Cys	Ser	Ser	Thr	Pro	Ala	Ala	
			15					20					25			
agc	gag	ccc	ccg	ccg	tcc	gcg	gcg	ccg	ccc	tcg	gcc	gtg	acg	gcc	acc	70227
Ser	Glu	Pro	Pro	Pro	Ser	Ala	Ala	Pro	Pro	Ser	Ala	Val	Thr	Ala	Thr	
		30					35					40				
ggc	ccg	gcg	gcc	gag	aag	gcc	gtc	aag	tcg	ggc	acc	cag	acc	tat	cac	70275
Gly	Pro	Ala	Ala	Glu	Lys	Ala	Val	Lys	Ser	Gly	Thr	Gln	Thr	Tyr	His	
	45					50					55					
cag	gcg	ctc	gac	gcc	ttc	gtc	gcg	gcg	agc	aac	aag	ggc	acg	acc	gac	70323
Gln	Ala	Leu	Asp	Ala	Phe	Val	Ala	Ala	Ser	Asn	Lys	Gly	Thr	Thr	Asp	
60					65					70					75	
acc	acc	gag	atc	ggc	aag	tac	gcg	tcc	ggc	cgg	gcg	ctg	atg	acc	ttc	70371
Thr	Thr	Glu	Ile	Gly	Lys	Tyr	Ala	Ser	Gly	Arg	Ala	Leu	Met	Thr	Phe	
				80					85					90		
cag	ggc	atc	ctc	gcc	tcc	tac	cag	cag	cag	ggc	gtg	cac	acc	agc	ggc	70419
Gln	Gly	Ile	Leu	Ala	Ser	Tyr	Gln	Gln	Gln	Gly	Val	His	Thr	Ser	Gly	
			95					100					105			

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gag ccg cgc atc gac gag ccg gtc gtc acc ggg ctc acc ccg ccg gcc Glu Pro Arg Ile Asp Glu Pro Val Val Thr Gly Leu Thr Pro Pro Ala 110 115 120	70467
gac ccc acc ggc gtc cag ctg cgc ggc tgc atc gac atc agc gcc tgg Asp Pro Thr Gly Val Gln Leu Arg Gly Cys Ile Asp Ile Ser Ala Trp 125 130 135	70515
ccg ctg acg aag gcc gac ggg acc ccg gcc gac aag gtg ggc ggg cag Pro Leu Thr Lys Ala Asp Gly Thr Pro Ala Asp Lys Val Gly Gly Gln 140 145 150 155	70563
cag ggc agc ggg ccc agc gcg atc ctg gcg aac gtc gcc cgc tgc ggt Gln Gly Ser Gly Pro Ser Ala Ile Leu Ala Asn Val Ala Arg Ser Gly 160 165 170	70611
gcc acc tgg cag gtg acc gag ctg gcc atc cag gga ccc tgc gcg gcg Ala Thr Trp Gln Val Thr Glu Leu Ala Ile Gln Gly Pro Cys Ala Ala 175 180 185	70659
tga ccgtccggcg	70672
atggctacgg gccgggctca cggctcctggc gtctgcgcgc ggcttctggc agaagctgcc	70732
ctgccaggcc gctggctggc cggacgacac cgcgacgctg ttccggccgct actgctacag	70792
cgacgtgcgg attctcttcc gggagcgcgg ccttttcgac ggcattttcc cgtacgagtc	70852
cgggcccggc gccagccgc tggagtacc ggctctcacc ggctacctga tggacgccac	70912
ggcccggctc gtctgcgcga tctgcccgg cgcggacgtg gccgtcgct cccgggcgta	70972
cttctcacg acggtcctgg tctgtctgc cctcgcggtc ctgaccgtgt gggcgaccgg	71032
tgcggtgctg cgcgcaccc gcgggcccgg gggcgacgcg ctgctggctg cgcgcgacc	71092
ggtgctgctc ctggccggca cgggtgaactg ggacctgctc gccgtcgcg cggcggtgct	71152
cgcgctctc gcctgggaac gggaccgccc gctgctggcc gccgtgctga tccggctggg	71212
cacggcggcc aagctgttcc cgtggtgct gctcggcccgt gtgctgctgc tctgcctccg	71272
gcagcggcgg atgcggcggt tgcgccgct ggccgcgggt gccgcgggg cctggcttct	71332
ggtcaacctg ccggtggctg cgtgcaacc ggacggctgg atggagttct ggcggttcaa	71392
cgcggggcgc ggggcccaggt tcgggtcgct ctggttcgcg ctggacgggc tcggcctgca	71452
catgccggcg gtgaacgcg tcgccctggc gacgttcggc gtgctgctgg cggggatcgc	71512
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cggcgcgttc ctgctgacca acaaggtcta ctcgccgcag tacgcgtctt ggtcctgcc	71632
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APPENDIX A

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cg

atg 75537

Met

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aag gcc atg tct cac gag cgc tcc act ccc gtt ctg cag gcc gag ggc 75585

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Leu	Thr	Lys	Arg	Tyr	Gly	Arg	Arg	Arg	Ala	Leu	Thr	Asp	Cys	Thr	Leu	
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tcc	gtt	ccc	tcc	gga	cgg	gtg	atc	gcg	ctg	gtc	gga	ccg	cgc	ggc	tcg	75681
Ser	Val	Pro	Ser	Gly	Arg	Val	Ile	Ala	Leu	Val	Gly	Pro	Arg	Gly	Ser	
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Leu	Pro	Pro	Gly	Met	Glu	Pro	Ile	Trp	Val	Glu	Asp	Phe	Gly	Ser	Tyr	
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Thr	Val	Glu	Arg	Val	Glu	Leu	Glu	Glu	Leu	Val	Leu	Ser	Tyr	Leu	Ser	
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cgg	gcc	tcg	ggc	gcg	ccc	gcg	ctc	gcc	ggc	tgc	ctg	atc	gcg	ccc	ggc	76449
Arg	Ala	Ser	Gly	Ala	Pro	Ala	Leu	Ala	Gly	Cys	Leu	Ile	Ala	Pro	Gly	
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Gln	Pro	Gly	Ser													
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tcggcgccgg	tgggcagggc	gatgaggatg	cgtccccgg	ccgggaaccg	ggcggcgagc	81454
caggccgccc	gcgcgcggc	gcggcggtcg	agctcggcgt	acgtgaggggt	gacgggctcg	81514
gcgtccgggt	cgccggggag	caccacgagg	gcgggctcgc	cggggcgcgc	gatcgctgc	81574
gcccggaagg	cgtcgggaac	ggtgggttgg	gtggcggcgt	cgatgaccat	ggcaactgcc	81634
tctccggaag	ggtccgccag	ggccgcgacg	ccgcggcgcg	gtcgcgctca	gctctgcgggt	81694
tgcttctgct	tctccatcgc	cgcgatcagg	ctcttggggc	gcatgtcggt	ccaggacttc	81754

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tcgatgtagt cgaggcagtc ctgccgtccg gcctcgccga acaccgtcgt ccagccgtcg 81814
ggcacgtcgg cgaagaccgg ccagagttag tgctgtccct cgtcgttgac caggaccagg 81874
tagttggcgt cgggatcttc aaacggattg ggcacagcgt cgctccatc gaacggatcg 81934
gatgacggtg gtcaggagcc gcacggccgg cggttggcgc caccgccagc actatggccg 81994
agactcggaa cggccgacaa gcgtgcacgg gctgtgcgac tgcgcgcgcg gcgcggttgg 82054
acagcggta cagcggggccg cggccggccc gcaggagcat gagcgcgatg gtcgtgccat 82114
cctcgccgag cgcgggcgcg aagcgttga tgacctctg ctcccgggag agcaccaccc 82174
gggttcgcgc ggaggccagc cggatggagc cgatcttctg cgagatcgag gccctttcct 82234
gccacagccg catgatggcg gcgtcgatct cgtcgatgcg gttccgcagg accgggatgt 82294
ccgcctccgg caccggcctg ccgtgctcgg ccggcgggtgc gcccggcgc accgacctgaa 82354
tgacgtttct caccatcgcc gtctcctgtg agcttgtcgg tggtagctcg ggggtggcag 82414
ccgggacggt aacaccgccg cgcggccgct cgggcgcgtg cgactgaggc cgtccgtcag 82474
tcgaacgcac gctttcgtgc gcactgccca accaggccga accgctccta cagtcgccgt 82534
cgatcgagc cgggtgtaaca ccgtcgaaac gccggaggat gccttggccg cc

gtg gat gtc ccg agg gtg cgc ccg ccc 82613
Val Asp Val Pro Arg Val Arg Pro Pro
1 5

ggt gcc gcg ccc gcg ccg cgg cgt cgc cgg tgg cgg ttc tgg cag tcg 82661
Gly Ala Ala Pro Ala Pro Arg Arg Arg Arg Trp Arg Phe Trp Gln Ser
10 15 20 25

ccg gac ggc cag ccg gcg tgg gcc cgc ccg gcg ctg ctg ggc atc gcg 82709
Pro Asp Gly Gln Pro Ala Trp Ala Arg Pro Ala Leu Leu Gly Ile Ala
30 35 40

gcg ctg gcg gcc gtg ctg tac acg gcg aac ctc gcc cgc agc ggc tac 82757
Ala Leu Ala Ala Val Leu Tyr Thr Ala Asn Leu Ala Arg Ser Gly Tyr
45 50 55

ccc atg tac tac gcc gtg gcg gtg aag agc atg tcg gtg agc tgg ccg 82805
Pro Met Tyr Tyr Ala Val Ala Val Lys Ser Met Ser Val Ser Trp Pro
60 65 70

gcg ttc tgg acc ggc gcg ttc gac ccg gcc gcc tcg atc acg atc gac 82853
Ala Phe Trp Thr Gly Ala Phe Asp Pro Ala Ala Ser Ile Thr Ile Asp
75 80 85

aag ctc gcc ggc gcc ttc gtc ccg cag gcg ctc tcc gcc cgc gtc ttc 82901
Lys Leu Ala Gly Ala Phe Val Pro Gln Ala Leu Ser Ala Arg Val Phe
90 95 100 105

ggc ttc cac cag tgg tcc ctg gcc ctg ccg cag gcc gtc gag ggg gtc 82949
Gly Phe His Gln Trp Ser Leu Ala Leu Pro Gln Ala Val Glu Gly Val
110 115 120

atc gcc gtg ctg gtc ctc tac cgg gcg gtg cgg cgc tgg cac ggg ccc 82997
Ile Ala Val Leu Val Leu Tyr Arg Ala Val Arg Arg Trp His Gly Pro
125 130 135

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ggc	gcc	ggg	ctg	gcc	gcg	gcc	ggg	ctg	ttc	gcc	acg	acg	ccg	atc	gtg	83045
Gly	Ala	Gly	Leu	Ala	Ala	Ala	Gly	Leu	Phe	Ala	Thr	Thr	Pro	Ile	Val	
		140					145					150				
tcc	tgc	atg	ttc	ggc	cac	tcc	atg	gag	gac	ggg	gcg	ctg	acg	ctc	tgc	83093
Ser	Ser	Met	Phe	Gly	His	Ser	Met	Glu	Asp	Gly	Ala	Leu	Thr	Leu	Cys	
		155					160				165					
ctg	gtg	ctc	gcg	gcc	gac	gcg	ttc	ggc	gcg	gcg	gtg	acc	cgc	ggc	agc	83141
Leu	Val	Leu	Ala	Ala	Asp	Ala	Phe	Gly	Ala	Ala	Val	Thr	Arg	Gly	Ser	
170					175					180					185	
ccg	gcc	cgg	ctg	gcg	ctc	gcg	ggc	gcc	tgg	atc	ggg	ctc	ggc	ttc	cag	83189
Pro	Ala	Arg	Leu	Ala	Leu	Ala	Gly	Ala	Trp	Ile	Gly	Leu	Gly	Phe	Gln	
				190					195					200		
gcg	aag	atg	atg	cag	gcg	tgg	ctg	gtg	ctg	ccg	gcc	ctg	gtc	gtc	acc	83237
Ala	Lys	Met	Met	Gln	Ala	Trp	Leu	Val	Leu	Pro	Ala	Leu	Val	Val	Thr	
			205					210					215			
tat	ctc	gcc	ggc	gca	ccg	gtg	cgg	gcg	cgg	gcc	cgg	gtc	gtc	cat	gtc	83285
Tyr	Leu	Ala	Gly	Ala	Pro	Val	Arg	Ala	Arg	Ala	Arg	Val	Val	His	Val	
		220					225					230				
gcg	gcg	gcg	gtg	gcg	gcg	acc	ctg	gcg	gtc	tgc	ctg	ctc	tgg	gtg	ctg	83333
Ala	Ala	Ala	Val	Ala	Ala	Thr	Leu	Ala	Val	Ser	Leu	Leu	Trp	Val	Leu	
		235				240					245					
gcg	ctg	acc	ctg	ctg	ccc	ggc	tgc	cac	cgg	ccg	tgg	gcg	gac	ggc	acc	83381
Ala	Leu	Thr	Leu	Leu	Pro	Gly	Ser	His	Arg	Pro	Trp	Ala	Asp	Gly	Thr	
250					255					260					265	
acc	tcc	ggc	aac	gcc	ttc	gcc	atg	gtg	ttc	ggc	tac	aac	ggg	ttc	gac	83429
Thr	Ser	Gly	Asn	Ala	Phe	Ala	Met	Val	Phe	Gly	Tyr	Asn	Gly	Phe	Asp	
			270						275					280		
cgg	gcc	ggc	atc	cac	gtg	ccg	ggc	gcg	ctg	acg	acc	ggc	ttc	acc	gac	83477
Arg	Ala	Gly	Ile	His	Val	Pro	Gly	Ala	Leu	Thr	Thr	Gly	Phe	Thr	Asp	
			285					290					295			
ggc	ggg	gcc	gcg	gcc	ggc	ggg	tcc	tgg	acg	gcg	ctt	gcc	gcg	gat	cgc	83525
Gly	Gly	Ala	Ala	Ala	Gly	Gly	Ser	Trp	Thr	Ala	Leu	Ala	Ala	Asp	Arg	
		300					305					310				
ctc	gcc	acc	cag	atc	ggg	tgg	tgg	tac	ccg	ctg	gcg	ctg	acc	ggc	ctg	83573
Leu	Ala	Thr	Gln	Ile	Gly	Trp	Trp	Tyr	Pro	Leu	Ala	Leu	Thr	Gly	Leu	
	315					320					325					
ctg	ctc	ggc	ctg	gcc	cgg	tgg	cgc	acc	gcg	cgc	gcc	ggc	ctc	ctg	ttc	83621
Leu	Leu	Gly	Leu	Ala	Arg	Trp	Arg	Thr	Ala	Arg	Ala	Gly	Leu	Leu	Phe	
330					335					340					345	
tgg	gga	ctg	tgg	ttg	ctg	acg	gcc	gcg	gtg	gtg	ctc	agc	cgg	atc	acc	83669
Trp	Gly	Leu	Trp	Leu	Leu	Thr	Ala	Ala	Val	Val	Leu	Ser	Arg	Ile	Thr	
				350					355					360		
att	cag	cac	aac	gcc	tac	ctg	gcc	gtg	ctg	gcc	ccg	ccg	ctg	gcg	gcg	83717
Ile	Gln	His	Asn	Ala	Tyr	Leu	Ala	Val	Leu	Ala	Pro	Pro	Leu	Ala	Ala	
			365					370					375			
ctc	gcg	gcg	gcc	ggc	gcg	gtg	cag	ctc	tgg	cgc	acg	cac	cgc	gac	ggc	83765
Leu	Ala	Ala	Ala	Gly	Ala	Val	Gln	Leu	Trp	Arg	Thr	His	Arg	Asp	Gly	
		380					385					390				

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acg gcg ccc tgg ctg ctg ccc gcg gtc gtg gtc gtc cag gcc ggc tgg	83813
Thr Ala Pro Trp Leu Leu Pro Ala Val Val Val Val Gln Ala Gly Trp	
395 400 405	
acc ctg tgg ctg gcc acc cgc tat ccc tcg ttc ctg gcc ggg ctg acg	83861
Thr Leu Trp Leu Ala Thr Arg Tyr Pro Ser Phe Leu Ala Gly Leu Thr	
410 415 420 425	
tgg acg gcg ccg atc gcc gcc gtc ctg gcc gtg gtg gtg ctg gcc gcg	83909
Trp Thr Ala Pro Ile Ala Ala Val Leu Ala Val Val Val Leu Ala Ala	
430 435 440	
cgg ccg acg gcc ccg ccg ccg gcc gtc gtc gtg gtg gtc gcc ggc ctg	83957
Arg Pro Thr Ala Arg Arg Pro Ala Val Val Val Val Val Ala Gly Leu	
445 450 455	
ctg gcg gtg ccg gtc gcg tgg ggc gcc tcg gtg ctg aac ccg cga tac	84005
Leu Ala Val Pro Val Ala Trp Gly Ala Ser Val Leu Asn Pro Arg Tyr	
460 465 470	
gcc ggc acg tcg ttc gag gcc ggt gcg ggg ccg agc ggg ccg gtg ggc	84053
Ala Gly Thr Ser Phe Glu Ala Gly Ala Gly Pro Ser Gly Pro Val Gly	
475 480 485	
gtg ccg ctc gac gac gac acc acc gac ccg ctg acg ccg ggc ctg cgc	84101
Val Arg Leu Asp Asp Asp Thr Thr Asp Arg Leu Thr Pro Gly Leu Arg	
490 495 500 505	
agg ctc gac gac tat ctc gcg gcc cac cgc gac ggc cgc acc tac ctg	84149
Arg Leu Asp Asp Tyr Leu Ala Ala His Arg Asp Gly Arg Thr Tyr Leu	
510 515 520	
gcg gcc acg tcc tcg tgg cgc acg gcc ggc ccg ctc atc gtc ccg acc	84197
Ala Ala Thr Ser Ser Trp Arg Thr Ala Gly Arg Leu Ile Val Pro Thr	
525 530 535	
ggg cac tcc tac ctg ccg ctc ggc ggc ttc agc gga gcg gcg ccg ttc	84245
Gly His Ser Tyr Leu Pro Leu Gly Gly Phe Ser Gly Ala Ala Pro Phe	
540 545 550	
ccg tcg ctg gcc ggc gtg cag cgc ctg gtc cgc gac ggc gag ctg cgc	84293
Pro Ser Leu Ala Gly Val Gln Arg Leu Val Arg Asp Gly Glu Leu Arg	
555 560 565	
tac ttc gtc ctc ggc ggc ccg gag ggc ctc ggc ggc gag gcc acc gag	84341
Tyr Phe Val Leu Gly Gly Pro Glu Gly Leu Gly Gly Glu Ala Thr Glu	
570 575 580 585	
gcg tac cgc atc acc ggc tgg gtc ctc gag acg tgc gcc acc gtg ccg	84389
Ala Tyr Arg Ile Thr Gly Trp Val Leu Glu Thr Cys Ala Thr Val Pro	
590 595 600	
ccg gcc gag cac ggc gcc gat ccg gat ctc acg gtc ctg cga tgc gac	84437
Pro Ala Glu His Gly Ala Asp Pro Asp Leu Thr Val Leu Arg Cys Asp	
605 610 615	
aag ccc	
Lys Pro	

tga caaccgacgt agcacgacga acccgggagg aaca

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gtg gac aac ggc acc ttc acc gat ctg cgc atc gac cac atc gaa ttc Val Asp Asn Gly Thr Phe Thr Asp Leu Arg Ile Asp His Ile Glu Phe 1 5 10 15	84528
gcg gtc gcg gac gtc gaa tcc gcc agc gcc ccg ttt acg gag ggc tac Ala Val Ala Asp Val Glu Ser Ala Ser Ala Pro Phe Thr Glu Gly Tyr 20 25 30	84576
ggc ttc tcg gtg tac ggc ggg acc ggc gac gcg cac gcg ccg gtg cgg Gly Phe Ser Val Tyr Gly Gly Thr Gly Asp Ala His Ala Pro Val Arg 35 40 45	84624
cgg gtg gcg ctg gga cgc gac gac atc cgg ctc gtg ctg acc gcg gcg Arg Val Ala Leu Gly Arg Asp Asp Ile Arg Leu Val Leu Thr Ala Ala 50 55 60	84672
ccc ggc ggg gac cat ccg gcc atg gcc tac gtc gag cag cac ggc gac Pro Gly Gly Asp His Pro Ala Met Ala Tyr Val Glu Gln His Gly Asp 65 70 75 80	84720
ggt gtg tcg gcc atc gcg ctc agc acg aga gac gcc cac gcg gcg ttc Gly Val Ser Ala Ile Ala Leu Ser Thr Arg Asp Ala His Ala Ala Phe 85 90 95	84768
acc gag gcg gtg cgg cga ggc gcc gtc ggg gta tcc gcc ccg gtc acc Thr Glu Ala Val Arg Arg Gly Ala Val Gly Val Ser Ala Pro Val Thr 100 105 110	84816
ggc aac ggc gtg acc gtc gcg acc atc cgc gcc ttc ggt gac gtc ctg Gly Asn Gly Val Thr Val Ala Thr Ile Arg Gly Phe Gly Asp Val Leu 115 120 125	84864
cac acc ttc gtc gag cgg gcg ccg ggc gcg gac ccc cgg acc ctg ccc His Thr Phe Val Glu Arg Ala Pro Gly Ala Asp Pro Arg Thr Leu Pro 130 135 140	84912
ggc ctg gag ctg cgg cgg ccc agc ccc acc cgg ttc gac tcg ggc ctg Gly Leu Glu Leu Arg Arg Pro Ser Pro Thr Arg Phe Asp Ser Gly Leu 145 150 155 160	84960
cag gcg atc gac cac atc gcc gtc tgc ctc gag ccg ggg acc ctc gac Gln Ala Ile Asp His Ile Ala Val Cys Leu Glu Pro Gly Thr Leu Asp 165 170 175	85008
ccg acc gtc gac ttc tac cgc gac gtc ctc gac ttc gag atg atc ttc Pro Thr Val Asp Phe Tyr Arg Asp Val Leu Asp Phe Glu Met Ile Phe 180 185 190	85056
gag gag cgc atc ctg gtg ggc cgg cag gcg atg gac tcc aag gtg gtg Glu Glu Arg Ile Leu Val Gly Arg Gln Ala Met Asp Ser Lys Val Val 195 200 205	85104
cag agc cgc tcg ggc ggt gtg acg ctc acc ctc atc gag ccc gac acg Gln Ser Arg Ser Gly Gly Val Thr Leu Thr Leu Ile Glu Pro Asp Thr 210 215 220	85152
tcg ctc gag cag ggc cag atc gac acc ttc ctg aag aac cac ggc ggg Ser Leu Glu Gln Gly Gln Ile Asp Thr Phe Leu Lys Asn His Gly Gly 225 230 235 240	85200
ccg ggc gtg cag cac ctc gcg ttc atc acc gac gac gtg ctg cgc tcg Pro Gly Val Gln His Leu Ala Phe Ile Thr Asp Asp Val Leu Arg Ser 245 250 255	85248

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gtc ggc cgg atg tcc gag cac ggc gtc gag ttc ctg cac acc ccg gac Val Gly Arg Met Ser Glu His Gly Val Glu Phe Leu His Thr Pro Asp 260 265 270	85296
tcg tac tac ggc cgg cta ccg ggg cgc atc ccg cag gcc ggg cac ccg Ser Tyr Tyr Gly Arg Leu Pro Gly Arg Ile Pro Gln Ala Gly His Pro 275 280 285	85344
atc cag gcg ctg cgc gac ctg aac gtg ctc gtc gac cag gac cac gac Ile Gln Ala Leu Arg Asp Leu Asn Val Leu Val Asp Gln Asp His Asp 290 295 300	85392
ggg cag ctg ttc cag atc ttc acg aag tcg gtg cac ccc cgc ggg acg Gly Gln Leu Phe Gln Ile Phe Thr Lys Ser Val His Pro Arg Gly Thr 305 310 315 320	85440
atc ttc atg gag gtg atc gag cga atg ggc gct cgc agc ttc ggc agc Ile Phe Met Glu Val Ile Glu Arg Met Gly Ala Arg Ser Phe Gly Ser 325 330 335	85488
ggc aac atc aag gcg ctg tac gag gcg gtc gag ctc gac atg tcc aag Gly Asn Ile Lys Ala Leu Tyr Glu Ala Val Glu Leu Asp Met Ser Lys 340 345 350	85536
cag agc gcc Gln Ser Ala 355	
tga gccgccg	
atg 85558 Met 1	
gag tcg ccg gca acc cac gcg gaa ctg gtg atc ggg acc gtc ctg ctc Glu Ser Pro Ala Thr His Ala Glu Leu Val Ile Gly Thr Val Leu Leu 5 10 15	85606
gac atc gcg ctg gtg ctc gcg gcc ggt gcc ctg ctc ggc cgg tgg gtg Asp Ile Ala Leu Val Leu Ala Ala Gly Ala Leu Leu Gly Arg Trp Val 20 25 30	85654
cgg cgg ctg cgc cag ccc gcg gtg atc ggg gag atc ctc gcg ggc atc Arg Arg Leu Arg Gln Pro Ala Val Ile Gly Glu Ile Leu Ala Gly Ile 35 40 45	85702
gcg ctc ggc ccg agc ctg ctc ggc ctg ctg ccg ggc aac ccg acg gcc Ala Leu Gly Pro Ser Leu Leu Gly Leu Leu Pro Gly Asn Pro Thr Ala 50 55 60 65	85750
tgg ctc ttc ccg gcc gag gcc cgg ccg tac ctg tcc gcg gtg gcc cag Trp Leu Phe Pro Ala Glu Ala Arg Pro Tyr Leu Ser Ala Val Ala Gln 70 75 80	85798
atc ggc ctg gcc ctg ttc acg ttc ctg atc ggc tgg gag ttc aac ccg Ile Gly Leu Ala Leu Phe Thr Phe Leu Ile Gly Trp Glu Phe Asn Pro 85 90 95	85846
gcg act ctg gcc cgg cac cgc ggc acc gcc gcc gcg gtg tcg atc ggc Ala Thr Leu Ala Arg His Arg Gly Thr Ala Ala Ala Val Ser Ile Gly 100 105 110	85894
tcc atc gcg gtc tcg ttc ggc ctc ggc atc gcg ctg gcc acg gtg ctg Ser Ile Ala Val Ser Phe Gly Leu Gly Ile Ala Leu Ala Thr Val Leu	85942

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115	120	125	
cat ccc cgg cac gac acg acc ggg ggc ggg aag gtc ggc ttc acc gag His Pro Arg His Asp Thr Thr Gly Gly Gly Lys Val Gly Phe Thr Glu 130 135 140 145			85990
ttc gcg ctc ttc ctg ggc gtg gcc atg tgc atc acc gcg ttc ccg gtg Phe Ala Leu Phe Leu Gly Val Ala Met Ser Ile Thr Ala Phe Pro Val 150 155 160			86038
ctg gcc cgg atc ctc gcg gag cgg cgc ctc acc ggc acg cgg gtg ggc Leu Ala Arg Ile Leu Ala Glu Arg Arg Leu Thr Gly Thr Arg Val Gly 165 170 175			86086
agc atc gcg ctg gtc agc gcc gcg atc gac gac gtg gtg gcc tgg tgc Ser Ile Ala Leu Val Ser Ala Ala Ile Asp Asp Val Val Ala Trp Cys 180 185 190			86134
ctg ctg gcc ctg gtg acg gcc atc gcc acg gcg agc ggg ccg gtc cag Leu Leu Ala Leu Val Thr Ala Ile Ala Thr Ala Ser Gly Pro Val Gln 195 200 205			86182
ctc gta cgc atc ctc gcc ctg ctg gcc gtc ttc ctg gtg gtg ctg gtg Leu Val Arg Ile Leu Ala Leu Leu Ala Val Phe Leu Val Val Leu Val 210 215 220 225			86230
acg gtc gta cgg ccg ctg ctg gtc ttg ctg gcg cgg cgg ccg tcc gcg Thr Val Val Arg Pro Leu Leu Val Leu Leu Ala Arg Arg Pro Ser Ala 230 235 240			86278
tgc tat ctt ctg gtg gcg gtg gtc gcg gtc gtg ctg ctc tgc gca tat Ser Tyr Leu Leu Val Ala Val Val Ala Val Val Leu Leu Ser Ala Tyr 245 250 255			86326
gcg acc acc tgg atc ggc ctg cac gcg atc ttc ggc gcg ttc tgc gcc Ala Thr Thr Trp Ile Gly Leu His Ala Ile Phe Gly Ala Phe Cys Ala 260 265 270			86374
ggc ctg gtc atg ccc cgg gag ccg gcg gcg gcg ctg cgt gag ccg gtg Gly Leu Val Met Pro Arg Glu Pro Ala Ala Ala Leu Arg Glu Arg Val 275 280 285			86422
cgg cag ccg ctg gaa cac gta agc gtg gtg ctg ctg ccg gtg ttc ttc Arg Gln Pro Leu Glu His Val Ser Val Val Leu Leu Pro Val Phe Phe 290 295 300 305			86470
atc gtc acc ggc ctc ggc gtc gac atc ggc gcg ctc acc gcg gcg aac Ile Val Thr Gly Leu Gly Val Asp Ile Gly Ala Leu Thr Ala Ala Asn 310 315 320			86518
atc ctc gaa ctc gcc gcg atc atc gtg atc gcc tgc gcc ggc aag ctg Ile Leu Glu Leu Ala Ala Ile Ile Val Ile Ala Cys Ala Gly Lys Leu 325 330 335			86566
gcc gcc gcg atc gtg ccg gcg gtg tgc ctc gcc atg tgc tgg ccg gac Ala Gly Ala Ile Val Pro Ala Val Ser Leu Gly Met Ser Trp Arg Asp 340 345 350			86614
gcc aga acc ctc ggc ctg ctc gtc aac acg cgc gcc ctg acc gag ctc Ala Arg Thr Leu Gly Leu Leu Val Asn Thr Arg Gly Leu Thr Glu Leu 355 360 365			86662
gtc gtg ctc aac gtc ggt ctg cag ctc gcc gtg ctg gac ggc cag atg Val Val Leu Asn Val Gly Leu Gln Leu Ala Val Leu Asp Gly Gln Met 370 375 380			86710

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370		375		380		385	
ttc acg atg atg gtg ctg atg gcg ctg gtg acg acc gcc ctt gcg ggc	86758						
Phe Thr Met Met Val Leu Met Ala Leu Val Thr Thr Ala Leu Ala Gly							
		390		395		400	
cgc ctg atc gga tgc gcc cgg aca ccg gcg gcc ggc gca ccg gct cag	86806						
Pro Leu Ile Gly Ser Ala Arg Thr Pro Ala Ala Gly Ala Pro Ala Gln							
		405		410		415	
gcg ctc ccg gcc gaa ccg cgg acg cgg cgg gcg gcg							
Ala Leu Pro Ala Glu Pro Arg Thr Arg Arg Ala Ala							
		420		425			
tag gcccggcgca tcttgatgta gttgcgcgat ccggccatcg	86885						
agcaccagcg ccgcgcctgg ttgcgggagg cgtcgtagta ggcccaccgg caggtgtccc	86945						
ggtcgcagac cttcagccgg gtccacacct gcagctcggc gcactgccgg accgcgtcga	87005						
tcagcccggc cagggcacgg tcgaacggcg tgccccggc cggcagcagg cgcggcgcgc	87065						
cgccggccag gctcagccgc acgggaacgg cggccaggat ctctccagg cggcgcagcg	87125						
cggccgggtc ggcgggatgg ccggcgtggc ccagcagcac ctggcgaagg ccctcacgaa	87185						
gcgcgacggc ccgtgccagg tcggccgggc gcacctcgc gccgggggcg agcaggcttt	87245						
ccccggccag ccacgccga agggcgctcg ggggtgtcag cgactcgtcg tcgacctgag	87305						
gctcataggt gttgacgaaa tcgcgcaaca gccgggcagg ggatggcact gcggcctcgt	87365						
cactcacctg tgacctcctt ggtggcgaca gcgtagcgcc ttgacaggcg cgcgaaccgc	87425						
ctggaacgat ccgctttcac accagcaaaa ctactttggt ggtgtgaaga ggcgcgaagg	87485						
agcggatc							
gtg gcc acc acg ctg agg gac gtg gca cgg ctc gcc	87529						
Val Ala Thr Thr Leu Arg Asp Val Ala Arg Leu Ala							
1 5 10							
cgg gtg tgc gtg aag acg gtc tcc aac gtc gtc aac gac cac ccg cac	87577						
Arg Val Ser Val Lys Thr Val Ser Asn Val Val Asn Asp His Pro His							
		15		20		25	
gtc agc gac gac gtg cgc cgc cgg gtc gag acg gcg atc cgg cag ctg	87625						
Val Ser Asp Asp Val Arg Arg Arg Val Glu Thr Ala Ile Arg Gln Leu							
		30		35		40	
ggc tac cgt ccc aac ctc gtc gcc cgc gcc ctg cgc agc ggc cgc ggc	87673						
Gly Tyr Arg Pro Asn Leu Val Ala Arg Ala Leu Arg Ser Gly Arg Gly							
		45		50		55	
agc gga ctg ctc gcc ctg gcg atg ccg ggc gcc ggc gcg ccg cag tgc	87721						
Ser Gly Leu Leu Ala Leu Ala Met Pro Gly Ala Gly Ala Pro Gln Ser							
		65		70		75	
ccc gcc ctg atc gag gag atc atc cgg cgg gcg gcc ccg ctc gga ttc	87769						
Pro Ala Leu Ile Glu Glu Ile Ile Arg Arg Ala Ala Pro Leu Gly Phe							
		80		85		90	

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cgg gtc ctc atc gag ccg ctc gag tcg tca cgg ccg agg ccg ccg gcc	87817
Arg Val Leu Ile Glu Pro Leu Glu Ser Ser Arg Pro Arg Pro Pro Ala	
95 100 105	
ccc ggc gtc gac gcc ccg ctg ctg aac gcg gag gcg ccg gcc ccc gag	87865
Pro Gly Val Asp Ala Arg Leu Leu Asn Ala Glu Ala Pro Ala Pro Glu	
110 115 120	
ctg gtg gac gcc cag gcg gcc acg ggc acc ccg ctg gtg ctg ctg acc	87913
Leu Val Asp Ala Gln Ala Ala Thr Gly Thr Pro Leu Val Leu Leu Thr	
125 130 135 140	
ggc acc ccc gat ccg cga tac gac tgc gtc ggc ccg gac gcc gcc cgc	87961
Gly Thr Pro Asp Pro Arg Tyr Asp Cys Val Gly Pro Asp Ala Ala Arg	
145 150 155	
gcg gcc gag gac gcg gtg gac cac ctg cgc cgt ctc ggc ccg cgc cgc	88009
Ala Ala Glu Asp Ala Val Asp His Leu Arg Arg Leu Gly Arg Arg Arg	
160 165 170	
gtc gcc acc atc ggc ggc tcg ctc tcc acc ggt ccg gcc ggc tcc ggc	88057
Val Ala Thr Ile Gly Gly Ser Leu Ser Thr Gly Pro Ala Gly Ser Gly	
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gaaacgaccg	c atg acc ccg atg tgc tac gcc cag cgc cgt ctc tgg ttc	Met Thr Pro Met Ser Tyr Ala Gln Arg Arg Leu Trp Phe	1	5	10	19070
cag ctg cgg gtc gag ggc ccc gac gcc acg tac aac agt ccc gcc gtc	Gln Leu Arg Val Glu Gly Pro Asp Ala Thr Tyr Asn Ser Pro Ala Val	15	20	25		19118
ctg cgc ctc acc ggc gag ctc gac acc gcc gcc ctg gag cac gcg ctg	Leu Arg Leu Thr Gly Glu Leu Asp Thr Ala Ala Leu Glu His Ala Leu	30	35	40	45	19166
cgc gac gtc ctc gaa cgg cac gag gtc ctg cgc acg gtc tat ccc gac	Arg Asp Val Leu Glu Arg His Glu Val Leu Arg Thr Val Tyr Pro Asp	50	55	60		19214
gtc ggc ggc gag ccg cgg cag cgc gtg gtt cgc ccg gac gac atg gtg	Val Gly Gly Glu Pro Arg Gln Arg Val Val Arg Pro Asp Asp Met Val	65	70	75		19262
tgg gag ctg ccc acg acc cgg gtg tcc ggt gcc ggc gcg ggc gac gac	Trp Glu Leu Pro Thr Thr Arg Val Ser Gly Ala Gly Ala Gly Asp Asp	80	85	90		19310
cgg ctc gtc acg ctc gac gag ctg ccc tgg gac cgc ccg gtg ctc gac	Arg Leu Val Thr Leu Asp Glu Leu Pro Trp Asp Arg Pro Val Leu Asp	95	100	105		19358
ctg ccg tgc ccc gca ccg gcc ggc cgg gaa ccg gac ggc gag atc acc	Leu Pro Ser Pro Ala Pro Ala Gly Arg Glu Pro Asp Gly Glu Ile Thr	110	115	120	125	19406
gtc gac gag ctg ccc ggc gcg atc gcc cgg gtg gcg gcc cac ccc ttc	Val Asp Glu Leu Pro Gly Ala Ile Ala Arg Val Ala Ala His Pro Phe	130	135	140		19454
gac ctc tcc atc gag atc ccg gtg cgg gcg cgg ctg ttc gcc ctg ggc	Asp Leu Ser Ile Glu Ile Pro Val Arg Ala Arg Leu Phe Ala Leu Gly	145	150	155		19502
ccg cgg cac cac gtc ctc gtc gtc gtg ctc cac cac atc gcc acc gac	Pro Arg His His Val Leu Val Val Val Leu His His Ile Ala Thr Asp	160	165	170		19550
ggc agc tcc ggc ggg ccg ttc gcc cgc gac ctc gcc gcc gcc tac cgc	Gly Ser Ser Gly Gly Pro Phe Ala Arg Asp Leu Ala Ala Ala Tyr Arg	175	180	185		19598
gcc cgc cgc acc gga acg gcg ccc cag tgg gca ccc ctt ccg gtg cag	Ala Arg Arg Thr Gly Thr Ala Pro Gln Trp Ala Pro Leu Pro Val Gln	190	195	200	205	19646
tac gcc gac tac gcg gcc tgg cag cag gaa ctg ctc ggc gcc gag gac	Tyr Ala Asp Tyr Ala Ala Trp Gln Gln Glu Leu Leu Gly Ala Glu Asp	210	215	220		19694
gac ccc gac agc gtc atc tgc cgg cag ctc gcc cac tgg cag gag cgg	Asp Pro Asp Ser Val Ile Ser Arg Gln Leu Ala His Trp Gln Glu Arg	225	230	235		19742

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ccc gcc gaa ccc ggg cac ggc ggg cac acc aag gcg ctg agc ctg ccc	19838
Pro Ala Glu Pro Gly His Gly Gly His Thr Lys Ala Leu Ser Leu Pro	
255 260 265	
ccg gcc gtg cac cga gga ctg gcc acg ctg gcc cgg cgg cgc cgc gcc	19886
Pro Ala Val His Arg Gly Leu Ala Thr Leu Ala Arg Arg Arg Arg Ala	
270 275 280 285	
acg ctt caa atg gtc gtg cag acc ggc gtc gcg atc ctg ctg tcc aag	19934
Thr Leu Gln Met Val Val Gln Thr Gly Val Ala Ile Leu Leu Ser Lys	
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Leu Gly Ala Gly Arg Asp Val Pro Leu Gly Ile Pro Val Ala Gly Arg	
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Thr Asp Ala Ala Leu Asp Asp Leu Ile Gly Phe Phe Val Asn Thr Leu	
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Gly Arg Val Arg Gly Gly Ala Val Ala Ala Leu Ala Asp Gln Asp Val	
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Pro Phe Asp Lys Leu Val Glu Arg Leu Ala Pro Ala Arg Val Leu Gly	
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Pro Ile Asp Leu Asp Gly Val Arg Gly Glu Pro Leu Thr Ile Gly Arg	
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Ala Asp Gly Ala Pro Ala Gly Ile Arg Gly Ile Leu Thr Leu Ser Ala	
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Arg Val Leu Thr Ala Met Ala Glu Ala Pro Glu Arg Arg Leu Ser Gly	
465 470 475	
atc gag gtg ctg tcg ccg ggg gag ccg tcg ccg ctg ctg gtg gag tgg	20510
Ile Glu Val Leu Ser Pro Gly Glu Arg Ser Arg Leu Leu Val Glu Trp	
480 485 490	

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gcg ccg cgt ctg gtg gcg gcg ggt gtg ggt gtg gag tcg ccg gtg gtg Ala Arg Arg Leu Val Ala Ala Gly Val Gly Val Glu Ser Pro Val Val 545 550 555	20702
gtg gcg ttg gag ccg tcg ccg gag gtg ctg tcc gcg ttt ttg gcg gtg Val Ala Leu Glu Arg Ser Pro Glu Val Leu Ser Ala Phe Leu Ala Val 560 565 570	20750
gcg aag gcc ggt ggt gtg ttt gtt ccg gtg gat ttg tcg tgg ccg cag Ala Lys Ala Gly Gly Val Phe Val Pro Val Asp Leu Ser Trp Pro Gln 575 580 585	20798
gcg cgt gtc gat gcg gtg gtt gct gac tgt gcc gcg ccg gtg gcg gtg Ala Arg Val Asp Ala Val Val Ala Asp Cys Ala Ala Arg Val Ala Val 590 595 600 605	20846
gct gac ccg ccg atg agc ggg ctg acg gtc gtg tcc gcc ggc ctg ggc Ala Asp Arg Pro Met Ser Gly Leu Thr Val Ser Ala Gly Leu Gly 610 615 620	20894
ggg gat tcg gcc gtc gtg tcc gcc gac ctg acc gcg gat ccg gcc gtt Gly Asp Ser Ala Val Val Ser Ala Asp Leu Thr Ala Asp Arg Ala Val 625 630 635	20942
gtg ttg ccg tct cgc ccg gtg ccg ggt gcg gcg gtc tac ccg atg tac Val Leu Pro Ser Arg Pro Val Pro Gly Ala Ala Val Tyr Arg Met Tyr 640 645 650	20990
acc tcc ggc tcg acg ggc cgc ccc aag ggt gtg gtg acc acc cac cag Thr Ser Gly Ser Thr Gly Arg Pro Lys Gly Val Val Thr Thr His Gln 655 660 665	21038
aac ctg gtg gat ctg gcg acc gac acg tgt tgg ggt ccg acc ccg ccg Asn Leu Val Asp Leu Ala Thr Asp Thr Cys Trp Gly Pro Thr Pro Arg 670 675 680 685	21086
gtg ctg ttc cac gcc ccg cac gcc ttc gac gcg tcg tcg tac gaa atc Val Leu Phe His Ala Pro His Ala Phe Asp Ala Ser Ser Tyr Glu Ile 690 695 700	21134
tgg gtg cct ctg ttg aat ggc ggc acg gtc gtg gtc gcc ccg cag cgc Trp Val Pro Leu Asn Gly Gly Thr Val Val Val Ala Pro Gln Arg 705 710 715	21182
agc atc gac gcc acc gtc ctg aag gat ctg atc cgc gcg cat gat ttg Ser Ile Asp Ala Thr Val Leu Lys Asp Leu Ile Arg Ala His Asp Leu 720 725 730	21230
acg cac gtg cac gtc acc gcg ggc ctg ctg ccg gtg ctg gac ccg tcg Thr His Val His Val Thr Ala Gly Leu Leu Arg Val Leu Asp Pro Ser 735 740 745	21278

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tgc ttc gcg ggc ctg acc gag gtg ctc acg ggt ggc gat gcg gtg tcg Cys Phe Ala Gly Leu Thr Glu Val Leu Thr Gly Gly Asp Ala Val Ser 750 755 760 765	21326
gcg gag gcg gtg cgc cgg gtc aaa gac gcg aac ccg ggt ctg cgg gtg Ala Glu Ala Val Arg Arg Val Lys Asp Ala Asn Pro Gly Leu Arg Val 770 775 780	21374
cgg cag ctg tac ggc ccg acc gag gtg acg ctg tgc gcg acg cag cat Arg Gln Leu Tyr Gly Pro Thr Glu Val Thr Leu Cys Ala Thr Gln His 785 790 795	21422
ctg ctg gat gac ggg gtg ccg atc ggg cgg ccg ttg gac aac acc cgc Leu Leu Asp Asp Gly Val Pro Ile Gly Arg Pro Leu Asp Asn Thr Arg 800 805 810	21470
gtg tat gtc ctg gac gac ttg ctg cag ccg gtg ccg gtc ggt gtg acc Val Tyr Val Leu Asp Asp Leu Leu Gln Pro Val Pro Val Gly Val Thr 815 820 825	21518
ggc gag ctg tat gtg gcc ggt gcc ggc gtg gcg cgt ggc tat gcg ggc Gly Glu Leu Tyr Val Ala Gly Ala Gly Val Ala Arg Gly Tyr Ala Gly 830 835 840 845	21566
atg ccc ggg ttg acg gcc gag cga ttt gtc gcc gac ccg ttc aac acc Met Pro Gly Leu Thr Ala Glu Arg Phe Val Ala Asp Pro Phe Asn Thr 850 855 860	21614
ggc ggt cgc ctc tac cgc acg ggt gat ctg gtg cgg tgg acc gat gac Gly Gly Arg Leu Tyr Arg Thr Gly Asp Leu Val Arg Trp Thr Asp Asp 865 870 875	21662
ggt gtg ctg cat ttc gcc ggc cga gcc gat gat cag gtg aag atc cgc Gly Val Leu His Phe Ala Gly Arg Ala Asp Asp Gln Val Lys Ile Arg 880 885 890	21710
ggc tat cgg gtg gag ccg ggc gag gtt gaa gcg gtt ctg gct caa cat Gly Tyr Arg Val Glu Pro Gly Glu Val Glu Ala Val Leu Ala Gln His 895 900 905	21758
ccc gat gtc agc cag gtc gcg gtg gtc gtc ccg gag gac acc cca ggc Pro Asp Val Ser Gln Val Ala Val Val Val Arg Glu Asp Thr Pro Gly 910 915 920 925	21806
gac aag cgt ctt gtc gcg tat gtc gtc ggc ggt gac atc gag gcg tat Asp Lys Arg Leu Val Ala Tyr Val Val Gly Gly Asp Ile Glu Ala Tyr 930 935 940	21854
ggc cag gag cgc ctt ccc ggt tac atg gtc ccg tcg gca ttc gta cat Gly Gln Glu Arg Leu Pro Gly Tyr Met Val Pro Ser Ala Phe Val His 945 950 955	21902
ctg gat gcg ttg ccg ctg acc agc aac cag aag gtg gat cgg gcc gca Leu Asp Ala Leu Pro Leu Thr Ser Asn Gln Lys Val Asp Arg Ala Ala 960 965 970	21950
ctg ccc gcg ccg tcc atg gag tcc ggc gcc ggt cga gct ccc gcg gat Leu Pro Ala Pro Ser Met Glu Ser Gly Ala Gly Arg Ala Pro Ala Asp 975 980 985	21998
gcc cgc gag gag ttg gtg tgt gcc gcg ttc gcc gag gtg ctc ggc ctg Ala Arg Glu Glu Leu Val Cys Ala Ala Phe Ala Glu Val Leu Gly Leu 990 995 1000 1005	22046

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gat	cgg	gtc	ggt	gtc	gac	gac	gac	ttc	ttc	gct	ctc	ggc	ggt	cac	22091
Asp	Arg	Val	Gly	Val	Asp	Asp	Asp	Phe	Phe	Ala	Leu	Gly	Gly	His	
				1010					1015					1020	
tcg	ctg	ctt	gcc	gtc	tcc	ctt	gtg	gag	gat	ttg	cgg	cag	cgt	ggc	22136
Ser	Leu	Leu	Ala	Val	Ser	Leu	Val	Glu	Asp	Leu	Arg	Gln	Arg	Gly	
				1025					1030					1035	
ctg	cac	gtc	tcc	gtt	cgc	gcg	ctc	ttc	gcc	acg	ccg	acc	ccc	gcg	22181
Leu	His	Val	Ser	Val	Arg	Ala	Leu	Phe	Ala	Thr	Pro	Thr	Pro	Ala	
				1040					1045					1050	
gcg	ctg	gcc	gtc	tcg	acc	gtg	ggc	gcc	ccg	atc	gag	gtg	ccg	ccc	22226
Ala	Leu	Ala	Val	Ser	Thr	Val	Ala	Ala	Pro	Ile	Glu	Val	Pro	Pro	
				1055					1060					1065	
aac	ctc	atc	ccc	cag	ggc	ggc	gcc	cgg	gaa	ctg	acc	ccc	gac	atg	22271
Asn	Leu	Ile	Pro	Gln	Gly	Gly	Ala	Arg	Glu	Leu	Thr	Pro	Asp	Met	
				1070					1075					1080	
ctg	ccc	ctg	gtc	gac	ctg	acc	ggc	gag	gag	ctg	gcc	acc	atc	gtg	22316
Leu	Pro	Leu	Val	Asp	Leu	Thr	Gly	Glu	Glu	Leu	Ala	Thr	Ile	Val	
				1085					1090					1095	
gcc	gcg	gtg	ccc	ggc	ggc	gct	gcc	aac	atc	gcc	gac	atc	tac	ccc	22361
Ala	Ala	Val	Pro	Gly	Gly	Ala	Ala	Asn	Ile	Ala	Asp	Ile	Tyr	Pro	
				1100					1105					1110	
cta	gcc	ccg	ctg	caa	gag	ggc	atc	ttc	ttc	cac	cac	ctc	atg	acc	22406
Leu	Ala	Pro	Leu	Gln	Glu	Gly	Ile	Phe	Phe	His	His	Leu	Met	Thr	
				1115					1120					1125	
gag	ggc	gac	acc	gcc	gac	gtc	tac	gcg	ctg	ccg	tac	ctg	ctg	cgc	22451
Glu	Gly	Asp	Thr	Ala	Asp	Val	Tyr	Ala	Leu	Pro	Tyr	Leu	Leu	Arg	
				1130					1135					1140	
gtt	ggc	acg	cgt	gag	cag	ctc	gac	gcc	ttc	ctc	ggg	gct	ttg	cag	22496
Val	Gly	Thr	Arg	Glu	Gln	Leu	Asp	Ala	Phe	Leu	Gly	Ala	Leu	Gln	
				1145					1150					1155	
cag	gtg	gtg	gac	cgc	cac	gac	gtc	tac	cgc	acg	gcc	atc	gcc	tgg	22541
Gln	Val	Val	Asp	Arg	His	Asp	Val	Tyr	Arg	Thr	Ala	Ile	Ala	Trp	
				1160					1165					1170	
cag	aac	ctg	cgc	gag	ccc	gtc	cag	gtc	gtg	cac	cgc	cac	gcc	acc	22586
Gln	Asn	Leu	Arg	Glu	Pro	Val	Gln	Val	Val	His	Arg	His	Ala	Thr	
				1175					1180					1185	
ctg	ccc	gtc	acc	gaa	gtc	acc	ccc	gac	caa	ctg	cac	gcc	gcc	gcc	22631
Leu	Pro	Val	Thr	Glu	Val	Thr	Pro	Asp	Gln	Leu	His	Ala	Ala	Ala	
				1190					1195					1200	
acc	ggc	ggc	cgg	ctc	ccg	ctc	gac	cac	gca	ccc	ctg	ctc	agc	gtc	22676
Thr	Gly	Gly	Arg	Leu	Pro	Leu	Asp	His	Ala	Pro	Leu	Leu	Ser	Val	
				1205					1210					1215	
cac	atc	gca	ccc	gaa	ccc	gac	ggc	ggc	tgg	ctc	gcc	cta	ctg	cgc	22721
His	Ile	Ala	Pro	Glu	Pro	Asp	Gly	Gly	Trp	Leu	Ala	Leu	Leu	Arg	
				1220					1225					1230	
atg	cac	cac	ctc	gtg	cag	gac	cac	acc	gcc	ctc	gac	atc	gtc	ctc	22766
Met	His	His	Leu	Val	Gln	Asp	His	Thr	Ala	Leu	Asp	Ile	Val	Leu	
				1235					1240					1245	

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gac gag atc cgc acc Asp Glu Ile Arg Thr 1250	atc ctc gcc ggc gca Ile Leu Ala Gly Ala 1255	acc gac cac ctc ccc Thr Asp His Leu Pro 1260	22811
cgc ccc gta cgc ttc Pro Pro Val Pro Phe 1265	cgc aat ttc gtg gcg Arg Asn Phe Val Ala 1270	cgc tcg cgg cgt ggt Arg Ser Arg Arg Gly 1275	22856
gcc gcc gag gcc gcg Ala Ala Glu Ala Ala 1280	cac cgc gac tac ttc His Arg Asp Tyr Phe 1285	acc ggc ctg ctc ggc Thr Gly Leu Leu Gly 1290	22901
gac gtc acc gag acc Asp Val Thr Glu Thr 1295	acc gcc cgc tac ggc Thr Ala Pro Tyr Gly 1300	ctc acc gac gtg cac Leu Thr Asp Val His 1305	22946
ggt gag cac tcc ggc Gly Glu His Ser Gly 1310	gtg cgc cgg ggc cgg Val Arg Arg Gly Arg 1315	ctc gcc gtg tcc gcc Leu Ala Val Ser Ala 1320	22991
ggg ctc gcc ggc cgg Gly Leu Ala Gly Arg 1325	gtg cgg gag acc gct Val Arg Glu Thr Ala 1330	cgc gac cgg ggc gtc Arg Asp Arg Gly Val 1335	23036
agc ccc gcc acc ctc Ser Pro Ala Thr Leu 1340	ttc cac ctg gcc tgg Phe His Leu Ala Trp 1345	gcg cgc gtg ctc gcc Ala Arg Val Leu Ala 1350	23081
gcc gtc tcg ggc cgc Ala Val Ser Gly Arg 1355	gac gac gtc gtc ttc Asp Asp Val Val Phe 1360	ggc acc gtg ctg ctg Gly Thr Val Leu Leu 1365	23126
ggc cgg atg gat gcc Gly Arg Met Asp Ala 1370	ggc cgg ggc gcc gac Gly Pro Gly Ala Asp 1375	cgg gtg ccg ggc ctt Arg Val Pro Gly Leu 1380	23171
ttc atg aac acc ctg Phe Met Asn Thr Leu 1385	cgc gtt cgc gta cgc Pro Val Arg Val Arg 1390	ctc ggc ggc cgc acc Leu Gly Gly Arg Thr 1395	23216
gtc gac gag gcg ctg Val Asp Glu Ala Leu 1400	cac ggg atg cgc gcc His Gly Met Arg Ala 1405	cag ctc gcc gac ctg Gln Leu Ala Asp Leu 1410	23261
ctc acc cac gag cac Leu Thr His Glu His 1415	gcc ccg ctg gtg ctc Ala Pro Leu Val Leu 1420	gcg cag cag tcg gcc Ala Gln Gln Ser Ala 1425	23306
ggc ctg ccc ggc ggc Gly Leu Pro Gly Gly 1430	agc ccc ctg ttc acc Ser Pro Leu Phe Thr 1435	tcg ctg ttc aac tac Ser Leu Phe Asn Tyr 1440	23351
cgg cac aac gcg acc Arg His Asn Ala Thr 1445	gac atc gag cgc tcc Asp Ile Glu Arg Ser 1450	gga acg ggc atc gac Gly Thr Gly Ile Asp 1455	23396
ggc gtc gag gcg ctg Gly Val Glu Ala Leu 1460	ccc acc ggc gac ccg Pro Thr Gly Asp Pro 1465	tcg aac tat ccg ctc Ser Asn Tyr Pro Leu 1470	23441
gac gtc tcg gtc aac Asp Val Ser Val Asn 1475	cag agc ccg ctc ggc Gln Ser Pro Leu Gly 1480	ttc gag ctc gtc gtc Phe Glu Leu Val Val 1485	23486

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gag gcc acc gag ccg gcc gac ccg gac cag ctc tgc cgg ctc ctg Glu Ala Thr Glu Pro Ala Asp Pro Asp Gln Leu Cys Arg Leu Leu	23531
1490 1495 1500	
cac gcc tgc ctc gac gac ctg atc gcc gcc ctc gac gag cag ccc His Ala Cys Leu Asp Asp Leu Ile Ala Ala Leu Asp Glu Gln Pro	23576
1505 1510 1515	
ggc cgc gcg ctc ggc acc ctc gac gtc gtc gcc gga cgg gag cgc Gly Arg Ala Leu Gly Thr Leu Asp Val Val Ala Gly Arg Glu Arg	23621
1520 1525 1530	
gac ctc ctc ctg gac ggc tgg aac gcc acg gcg gtc ccg gcc cag Asp Leu Leu Leu Asp Gly Trp Asn Ala Thr Ala Val Pro Ala Gln	23666
1535 1540 1545	
ccg gcc ctg gtg ccg gag ctc ttc acg gcg cag gcg gcg cgg aca Pro Ala Leu Val Pro Glu Leu Phe Thr Ala Gln Ala Ala Arg Thr	23711
1550 1555 1560	
ccc acc tgg ccg gcg ctg gtg acg gcc ggc gcg gag atg tcc tac Pro Thr Trp Pro Ala Leu Val Thr Ala Gly Ala Glu Met Ser Tyr	23756
1565 1570 1575	
gcc gag ctc gag gag cgg tcc aac cgg ctg gcg cgc tgg ctg gcc Ala Glu Leu Glu Glu Arg Ser Asn Arg Leu Ala Arg Trp Leu Ala	23801
1580 1585 1590	
ggg cgc ggg gtg ggc gcc gac gac cgg gtg gcc ctg atg atg cgc Gly Arg Gly Val Gly Ala Asp Asp Arg Val Ala Leu Met Met Arg	23846
1595 1600 1605	
cgc ggc ccg gag ctg atg gtg gcg atc ctg gcc gtg ctc aag gcg Arg Gly Pro Glu Leu Met Val Ala Ile Leu Ala Val Leu Lys Ala	23891
1610 1615 1620	
ggc gcg gcg tat ctg ccc gtg gat ccg gac ctg ccc cgc gac cgg Gly Ala Ala Tyr Leu Pro Val Asp Pro Asp Leu Pro Arg Asp Arg	23936
1625 1630 1635	
gtg gac tac ctg ctc gcg gac gcg gcc ccg gcg ttc gtg ctg gcc Val Asp Tyr Leu Leu Ala Asp Ala Ala Pro Ala Phe Val Leu Ala	23981
1640 1645 1650	
gag cgg gcc acc gcg ccg tgg gtg ccg gtg gcc ggt ggg att ccg Glu Arg Ala Thr Ala Pro Trp Val Pro Val Ala Gly Gly Ile Pro	24026
1655 1660 1665	
gtg ctg gtc gtg gac gcg ccg gcc gtc gcc gcc gag gtg gcg gcc Val Leu Val Val Asp Ala Pro Ala Val Ala Ala Glu Val Ala Ala	24071
1670 1675 1680	
cac tcg ggc gag gcc gtc acc gac cgg gac cgg cgc gcc gcc ctg His Ser Gly Glu Ala Val Thr Asp Arg Asp Arg Arg Ala Ala Leu	24116
1685 1690 1695	
cgc ggc ggc cac ctc gcc tac gtc atc tac acc tcg gga tcc acc Arg Gly Gly His Leu Ala Tyr Val Ile Tyr Thr Ser Gly Ser Thr	24161
1700 1705 1710	
ggg cgg ccc aag ggc gtg ctg atc acg cac gac ggc ctc gcc aat Gly Arg Pro Lys Gly Val Leu Ile Thr His Asp Gly Leu Ala Asn	24206
1715 1720 1725	

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ctc acg ctc gac cac Leu Thr Leu Asp His 1730	ggc cgg ttc ggc ctc Gly Arg Phe Gly Leu 1735	ggg ccg ggt gcc cgg Gly Pro Gly Ala Arg 1740	24251
gtg gcg cag ttc gcc Val Ala Gln Phe Ala 1745	tgc ccc ggc ttc gac Ser Pro Gly Phe Asp 1750	atg ttc gtc gac gag Met Phe Val Asp Glu 1755	24296
tgg tgc atg gcg ctg Trp Ser Met Ala Leu 1760	ctg gcc ggc gcc ggc Leu Ala Gly Ala Ala 1765	ctg acc ttc gtg ccg Leu Thr Phe Val Pro 1770	24341
ccg gag cgg cga ctg Pro Glu Arg Arg Leu 1775	ggc gcc gac ctg gcc Gly Ala Asp Leu Ala 1780	gcg ttc ctc gcc gag Ala Phe Leu Ala Glu 1785	24386
tac ggc gtg acg cac Tyr Gly Val Thr His 1790	gcg acg ctg ccg ccc Ala Thr Leu Pro Pro 1795	gcg gtc gtg ggc acg Ala Val Val Gly Thr 1800	24431
atc ccg gac ggt gtg Ile Pro Asp Gly Val 1805	ctg ccg ccg tgc ttc Leu Pro Pro Ser Phe 1810	gtg ctc gac gtc gcc Val Leu Asp Val Gly 1815	24476
ggc gac gtg ctg ccg Gly Asp Val Leu Pro 1820	ggc gac ctc gcg cgc Gly Asp Leu Ala Arg 1825	ccg tgg ctg cgc gac Arg Trp Leu Arg Asp 1830	24521
ggc cgg gtg ctg ttc Gly Arg Val Leu Phe 1835	aac tgc tac ggc ccg Asn Ser Tyr Gly Pro 1840	acc gag acc acc gtc Thr Glu Thr Thr Val 1845	24566
aac gcg gcg acg tgg Asn Ala Ala Thr Trp 1850	ccg gcc gag gcc ggt Arg Ala Glu Ala Gly 1855	gac tgg gga agc gtg Asp Trp Gly Ser Val 1860	24611
gcg ccg atc ggc acg Ala Pro Ile Gly Thr 1865	ccc gtg ccg aat ctg Pro Val Pro Asn Leu 1870	ccg gcg tac gtg ctc Arg Ala Tyr Val Leu 1875	24656
gac ggc tgg ctg cgc Asp Gly Trp Leu Arg 1880	ccg gtg ccg gtg ggc Pro Val Pro Val Gly 1885	gcc gac ggc gag ctg Ala Asp Gly Glu Leu 1890	24701
tac gtc tgc ggc gcc Tyr Val Ser Gly Ala 1895	gga ctc gcc cgc ggc Gly Leu Ala Arg Gly 1900	tat ctg aac cgg gcc Tyr Leu Asn Arg Ala 1905	24746
ggc ctg acc gcg gag Gly Leu Thr Ala Glu 1910	ccg ttc gtg gcg tgc Arg Phe Val Ala Cys 1915	ccg ttc gag ccg ggg Pro Phe Glu Pro Gly 1920	24791
gag cgg atg tac cgc Glu Arg Met Tyr Arg 1925	acc ggc gac gtg gtg Thr Gly Asp Val Val 1930	ccg tgg acc gcc gag Arg Trp Thr Ala Glu 1935	24836
ggg cgc ctg gtg ttc Gly Arg Leu Val Phe 1940	gcc ggt cgc tgc gac Ala Gly Arg Ser Asp 1945	gac cag gtc aag atc Asp Gln Val Lys Ile 1950	24881
cgc gga ttc cgg atc Arg Gly Phe Arg Ile 1955	gag ccc ggc gag gtg Glu Pro Gly Glu Val 1960	gag gcc gtg ctg gcc Glu Ala Val Leu Ala 1965	24926

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gcc gga ccg ggt gtg Ala Gly Pro Gly Val 1970	agc cag gcc gcg gtg Ser Gln Ala Ala Val 1975	atc gtg cgt gag gac Ile Val Arg Glu Asp 1980	24971
gtg ccg ggt gac aag Val Pro Gly Asp Lys 1985	cgc ttg gtg gcg tac Arg Leu Val Ala Tyr 1990	gtc gtg ggc ggt gac Val Val Gly Gly Asp 1995	25016
gtc gaa gct ctc cgg Val Glu Ala Leu Arg 2000	tcg tac gcg cag cag Ser Tyr Ala Gln Gln 2005	cgg ttg ccg ggt tac Arg Leu Pro Gly Tyr 2010	25061
atg gtg ccg tcg gct Met Val Pro Ser Ala 2015	ttc gtg gag ctg gac Phe Val Glu Leu Asp 2020	cgg ttg ccc ttg acg Arg Leu Pro Leu Thr 2025	25106
gtg aac ggc aag ctc Val Asn Gly Lys Leu 2030	gac cgc cgg gcc ctg Asp Arg Arg Ala Leu 2035	ccg gtg ccc gac ctc Pro Val Pro Asp Leu 2040	25151
gcc cgc ggc acg gga Ala Arg Gly Thr Gly 2045	tcc ggc cgg ccc gcc Ser Gly Arg Pro Ala 2050	ggc acg ccg cgc gag Gly Thr Pro Arg Glu 2055	25196
cag ctg ttg tgc gcg Gln Leu Leu Cys Ala 2060	ggc ttc gcg gcc gtc Gly Phe Ala Ala Val 2065	ctg ggc gtg gac gac Leu Gly Val Asp Asp 2070	25241
gtc ggc gcc gac gac Val Gly Ala Asp Asp 2075	gac ttc ttc gcg ctc Asp Phe Phe Ala Leu 2080	ggc ggt cat tcg ctg Gly Gly His Ser Leu 2085	25286
ttg gtg gtt tct ctg Leu Val Val Ser Leu 2090	gtg gag tgg ctg cgc Val Glu Trp Leu Arg 2095	cgt cgt ggg gtc tcg Arg Arg Gly Val Ser 2100	25331
gtg ccg gtg ccg gcg Val Pro Val Arg Ala 2105	ttg ttc acc acg ccg Leu Phe Thr Thr Pro 2110	acc ccg gcc ggg ctg Thr Pro Ala Gly Leu 2115	25376
gcc gag gcg gtc ggt Ala Glu Ala Val Gly 2120	gat ggt gcc gtg gtg Asp Gly Ala Val Val 2125	gtg ccg ccg aac ctg Val Pro Pro Asn Leu 2130	25421
att ccg gaa ggt gcg Ile Pro Glu Gly Ala 2135	gcc gag ctg acc ccg Ala Glu Leu Thr Pro 2140	gag atg gtg ccg ctg Glu Met Val Pro Leu 2145	25466
gcc gat ctg acg tcc Ala Asp Leu Thr Ser 2150	gag gag ctg gcg atc Glu Glu Leu Ala Ile 2155	gtc gtc gca tcg gtg Val Val Ala Ser Val 2160	25511
ccg ggc ggt gcg gcc Pro Gly Gly Ala Ala 2165	aat gtg gcc gat gtg Asn Val Ala Asp Val 2170	tat ccg ttg gcg ccg Tyr Pro Leu Ala Pro 2175	25556
ttg cag gag ggc atc Leu Gln Glu Gly Ile 2180	ttc ttc ccc gta gcc Phe Phe Pro Val Ala 2185	aca ggc ccc cag tgc Thr Gly Pro Gln Cys 2190	25601
tac gcc acg gtg ggg Tyr Ala Thr Val Gly 2195	agt tca ctc ccg gac Ser Ser Leu Pro Asp 2200	gat ggc ggt tct gcc Asp Gly Gly Ser Ala 2205	25646

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cct tgc agc agg ttt	cgc cgt cga tgt gta	tcg acg agt gtg gtg	25691
Pro Cys Ser Arg Phe	Arg Arg Arg Cys Val	Ser Thr Ser Val Val	
2210	2215	2220	
tgg cag ggg ctg cgt	gag ccg gtg cag gtg	gtg tgg cgg cac gcg	25736
Trp Gln Gly Leu Arg	Glu Pro Val Gln Val	Val Trp Arg His Ala	
2225	2230	2235	
cgg ctg ccc gtc gag	gag gtc gtg ctg cac	gag ggg gcc gac ccg	25781
Arg Leu Pro Val Glu	Glu Val Val Leu His	Glu Gly Ala Asp Pro	
2240	2245	2250	
gtc gag cag atg atg	gcg ctc gcc ggc ggt	tgg atg gac ctc acc	25826
Val Glu Gln Met Met	Ala Leu Ala Gly Gly	Trp Met Asp Leu Thr	
2255	2260	2265	
cgg gcg ccg ctc atc	gac gtc cac atc gcc	gcc ggc ccc ggc ggc	25871
Arg Ala Pro Leu Ile	Asp Val His Ile Ala	Ala Gly Pro Gly Gly	
2270	2275	2280	
gac cgc tgg ctg gcc	gtg ctg cgc atc cac	cac ctc gtg cag gac	25916
Asp Arg Trp Leu Ala	Val Leu Arg Ile His	His Leu Val Gln Asp	
2285	2290	2295	
cac acc gcc ctg gag	acg ctg ctc gac gag	ctg cag tcc ttt ctg	25961
His Thr Ala Leu Glu	Thr Leu Leu Asp Glu	Leu Gln Ser Phe Leu	
2300	2305	2310	
gag ggc cgc ggt ggc	gag ctt gcc gag ccg	gtg ccg ttc cgc gag	26006
Glu Gly Arg Gly Gly	Glu Leu Ala Glu Pro	Val Pro Phe Arg Glu	
2315	2320	2325	
ttc gtg gcg cag gcg	cgg ctc ggt gtg ccg	cgc gag gag cac gag	26051
Phe Val Ala Gln Ala	Arg Leu Gly Val Pro	Arg Glu Glu His Glu	
2330	2335	2340	
cgg tat ttc gcg gag	ttg ctc gcc gac atc	acc gag acc acc gcg	26096
Arg Tyr Phe Ala Glu	Leu Leu Gly Asp Ile	Thr Glu Thr Thr Ala	
2345	2350	2355	
ccg tac gac ctg acc	gac gtg cac ggc gac	ggc acc gga tac gac	26141
Pro Tyr Asp Leu Thr	Asp Val His Gly Asp	Gly Thr Gly Tyr Asp	
2360	2365	2370	
cac ggc gcg ctg ccg	ctg gac gcc acc gtc	gcg gcc cgc gtc ccg	26186
His Gly Ala Leu Pro	Leu Asp Ala Thr Val	Ala Ala Arg Val Arg	
2375	2380	2385	
gag gcg gcc cga acc	ctc gcc gtc agc ccg	gcg acg ctc ttc cac	26231
Glu Ala Ala Arg Thr	Leu Gly Val Ser Pro	Ala Thr Leu Phe His	
2390	2395	2400	
ctc gcg tgg gcg ccg	gtg ctc gcc acg ctg	gcc ggg cgc gac gac	26276
Leu Ala Trp Ala Arg	Val Leu Gly Thr Leu	Ala Gly Arg Asp Asp	
2405	2410	2415	
gtc gtc ttc gcc acc	gtc ctg ttc gga ccg	atg aac tcg ggt gcc	26321
Val Val Phe Gly Thr	Val Leu Phe Gly Arg	Met Asn Ser Gly Ala	
2420	2425	2430	
ggc gcc gac ccg gtc	tcc gcc ctg ttc atc	aac acg ctg ccg gtg	26366
Gly Ala Asp Arg Val	Ser Gly Leu Phe Ile	Asn Thr Leu Pro Val	
2435	2440	2445	

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cgg gtg cgg ctc ggc	gcg ccc acc ggc gac	gcc ctc ggc gac ctc	26411
Arg Val Arg Leu Gly	Ala Pro Thr Gly Asp	Ala Leu Gly Asp Leu	
2450	2455	2460	
cgc gac cag ctc gcc	gag ctg ctc gtg cac	gag cac gcc tcc ctc	26456
Arg Asp Gln Leu Ala	Glu Leu Leu Val His	Glu His Ala Ser Leu	
2465	2470	2475	
gcc tcc gcg cag aag	gcg agc ggc ctg ccc	ggc ggg agc ccc ctg	26501
Ala Ser Ala Gln Lys	Ala Ser Gly Leu Pro	Gly Gly Ser Pro Leu	
2480	2485	2490	
ttc acg tcg atc ttc	aac tac cgg cac aac	cag gtg agc gcc gaa	26546
Phe Thr Ser Ile Phe	Asn Tyr Arg His Asn	Gln Val Ser Ala Glu	
2495	2500	2505	
cgg gag acc gcc gcg	ctg ccc ggc atc cgc	gtc ctc gcg gcc cgc	26591
Arg Glu Thr Ala Ala	Leu Pro Gly Ile Arg	Val Leu Ala Ala Arg	
2510	2515	2520	
gac tcc acg aac tat	cgg ctc acc gtc gcg	gtg gac gac gac ggg	26636
Asp Ser Thr Asn Tyr	Pro Leu Thr Val Ala	Val Asp Asp Asp Gly	
2525	2530	2535	
cac ggc ttc acg ctc	gtg gtc gag gtc gcg	tcc aca gtc gac gcc	26681
His Gly Phe Thr Leu	Val Val Glu Val Ala	Ser Thr Val Asp Ala	
2540	2545	2550	
gcg ggc gtc tgc gaa	ctg ctg cac acc gcc	gtg gac aac ctc atc	26726
Ala Gly Val Cys Glu	Leu Leu His Thr Ala	Val Asp Asn Leu Ile	
2555	2560	2565	
gcg gcc ctc acc gac	cgg ccg ggc ggg ccg	ctg gcc gag gtc gac	26771
Ala Ala Leu Thr Asp	Arg Pro Gly Gly Pro	Leu Ala Glu Val Asp	
2570	2575	2580	
atc ctc gaa cgc ggt	ctg cgg gac cgc ctg	ctg acc gcc tgg aac	26816
Ile Leu Glu Arg Gly	Leu Arg Asp Arg Leu	Leu Thr Ala Trp Asn	
2585	2590	2595	
gag gcc cgg gag ccc	gca ccg ccg gtg acc	ctg ccc gac ctg ttc	26861
Glu Ala Arg Glu Pro	Ala Pro Pro Val Thr	Leu Pro Asp Leu Phe	
2600	2605	2610	
gac cgg cag gcc cgc	cgc acg ccc gag gcg	gtc gcg ctc acc gcg	26906
Asp Arg Gln Ala Arg	Arg Thr Pro Glu Ala	Val Ala Leu Thr Ala	
2615	2620	2625	
gac ggc gtc tcg ctg	acc tac cgc gag ctg	tcg gag cgc gcc aac	26951
Asp Gly Val Ser Leu	Thr Tyr Arg Glu Leu	Ser Glu Arg Ala Asn	
2630	2635	2640	
cgg atc gcc cgg ctg	ctc acc tcc cgg ggg	atc ggc ccg gag tcg	26996
Arg Ile Ala Arg Leu	Leu Thr Ser Arg Gly	Ile Gly Pro Glu Ser	
2645	2650	2655	
ctc gtc ggt gtc gtc	ctg ccc cgc tcg gcc	gac ctg gtc gtt gcg	27041
Leu Val Gly Val Val	Leu Pro Arg Ser Ala	Asp Leu Val Val Ala	
2660	2665	2670	
ctg ctc ggc gtt ctc	cag gcc ggc gcg gcc	tac gtg ccg gtc gac	27086
Leu Leu Gly Val Leu	Gln Ala Gly Ala Ala	Tyr Val Pro Val Asp	
2675	2680	2685	

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gcc gac tac ccg gcc gag cgg atc ggg tac atc ctc ggc gac gcg Ala Asp Tyr Pro Ala Glu Arg Ile Gly Tyr Ile Leu Gly Asp Ala 2690 2695 2700	27131
ggc gcg gtt tgc gtg ctc aca gtg gac gcg acc gcg ggc gcc gtt Gly Ala Val Cys Val Leu Thr Val Asp Ala Thr Ala Gly Ala Val 2705 2710 2715	27176
cct ccc ggc gta ccg aaa ctg gtg ctg gac cac ccg gaa acc gtg Pro Pro Gly Val Pro Lys Leu Val Leu Asp His Pro Glu Thr Val 2720 2725 2730	27221
acc gcg ctg gcg gcg tgt gac acg gca ccg ctc ggc gag gcc gag Thr Ala Leu Ala Ala Cys Asp Thr Ala Pro Leu Gly Glu Ala Glu 2735 2740 2745	27266
cgg gcc ggc gaa ctg ctg ccg gag cac ccc gcc tac gtc atc tac Arg Ala Gly Glu Leu Leu Pro Glu His Pro Ala Tyr Val Ile Tyr 2750 2755 2760	27311
acc tcc ggc tcc acc ggc acg ccc aag ggc gtg ctc atc ccg cac Thr Ser Gly Ser Thr Gly Thr Pro Lys Gly Val Leu Ile Pro His 2765 2770 2775	27356
cgc aac gtg gtc gag ctc ttc gcc gcc acc cgc ggc tcg ttc cac Arg Asn Val Val Glu Leu Phe Ala Ala Thr Arg Gly Ser Phe His 2780 2785 2790	27401
ttc ggc gag ggt gac gtg tgg tcg tgg ttc cac tcg gtc gcc ttc Phe Gly Glu Gly Asp Val Trp Ser Trp Phe His Ser Val Ala Phe 2795 2800 2805	27446
gac ttc tcg gtc tgg gag ctg tgg ggc gcg ctg ctg cac ggc ggc Asp Phe Ser Val Trp Glu Leu Trp Gly Ala Leu Leu His Gly Gly 2810 2815 2820	27491
cgc gtg gtc atg gtg ccg ttc gcc gtc tcc cgc tca ccg cgg gat Arg Val Val Met Val Pro Phe Ala Val Ser Arg Ser Pro Arg Asp 2825 2830 2835	27536
ttc tgg gaa ctg ctc gtg cgc gag cgg gtc acc gtg ctc agc cag Phe Trp Glu Leu Leu Val Arg Glu Arg Val Thr Val Leu Ser Gln 2840 2845 2850	27581
acg ccg tcc gcc ttc tac cag ctc gcc gcg gcc gcc gac gac acg Thr Pro Ser Ala Phe Tyr Gln Leu Ala Ala Ala Ala Asp Asp Thr 2855 2860 2865	27626
ccg gac gcg ctg cgc gtg gtg gtc ttc ggc ggc gag gcc ctc gac Pro Asp Ala Leu Arg Val Val Val Phe Gly Gly Glu Ala Leu Asp 2870 2875 2880	27671
ccg gga cgg ctc gcc gga tgg cgg gaa cgg cgc ccg gac gga ccg Pro Gly Arg Leu Ala Gly Trp Arg Glu Arg Arg Pro Asp Gly Pro 2885 2890 2895	27716
cgc ctg gtc aac atg tac ggc atc acc gag acg acg gtc cac gtc Arg Leu Val Asn Met Tyr Gly Ile Thr Glu Thr Thr Val His Val 2900 2905 2910	27761
acc cac cag gac ctc gca ccg gcc gac acc acc ggc agc ccc atc Thr His Gln Asp Leu Ala Pro Ala Asp Thr Thr Gly Ser Pro Ile 2915 2920 2925	27806

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gga cgc ggc ata ccg ggc ctg tcc gtc tac gtc ctc gac gag gcg Gly Arg Gly Ile Pro Gly Leu Ser Val Tyr Val Leu Asp Glu Ala	27851
2930 2935 2940	
ctg cgg ccg gtg ccg ccc ggg gtc gcc ggc gag gtg tac gtg gcc Leu Arg Pro Val Pro Pro Gly Val Ala Gly Glu Val Tyr Val Ala	27896
2945 2950 2955	
ggt cgc cag ctg gcc ccg gcc tac ctc ggc cgc gcc gcg ctg acc Gly Arg Gln Leu Ala Arg Ala Tyr Leu Gly Arg Ala Ala Leu Thr	27941
2960 2965 2970	
ggc acc cgc ttc gtc gcc tgc ccc ttc ctc ccg gcc ggg gaa ccg Gly Thr Arg Phe Val Ala Cys Pro Phe Leu Pro Ala Gly Glu Arg	27986
2975 2980 2985	
atg tac cgc acc ggc gac cgt gcc cgc tgg agc cgc ggc ccg ttg Met Tyr Arg Thr Gly Asp Arg Ala Arg Trp Ser Arg Gly Arg Leu	28031
2990 2995 3000	
cag ttc gcc ggg ccg acc gac gac cag gtg cag atc cgc ggc ttc Gln Phe Ala Gly Arg Thr Asp Asp Gln Val Gln Ile Arg Gly Phe	28076
3005 3010 3015	
cgc atc gaa ccg ggc gag gtg cag gcc gtc gtc gcc gcc cac cct Arg Ile Glu Pro Gly Glu Val Gln Ala Val Val Ala Ala His Pro	28121
3020 3025 3030	
gag atc gcc gcg gcg gcc gtc gtc gtc gtg ccg gag gac gtg ccc ggc Glu Ile Ala Ala Ala Ala Val Val Val Arg Glu Asp Val Pro Gly	28166
3035 3040 3045	
gac ccg cgc ctg acc gcc tac gtg gtg ccg gcc ggc ccg cgc acc Asp Pro Arg Leu Thr Ala Tyr Val Val Pro Ala Gly Pro Arg Thr	28211
3050 3055 3060	
gcg ccg gcg gcc gtc gcg gaa acc gtg ccg cgc ttc gcc gcc gac Ala Pro Ala Ala Val Ala Glu Thr Val Arg Arg Phe Ala Ala Asp	28256
3065 3070 3075	
ccg ctg ccg gcc tac atg ctt ccc tcc gcg gtc gtc gtg ctg gac Arg Leu Pro Ala Tyr Met Leu Pro Ser Ala Val Val Val Leu Asp	28301
3080 3085 3090	
gcc ctg ccg ctg acc gac cac ggc aag ctc gac ccg cgc gcc ctt Ala Leu Pro Leu Thr Asp His Gly Lys Leu Asp Arg Arg Ala Leu	28346
3095 3100 3105	
ccc gca ccg cag cac acg ggc gcc gcg agc ggc ccg gcg ccg gcc Pro Ala Pro Gln His Thr Gly Ala Ala Ser Gly Arg Ala Pro Ala	28391
3110 3115 3120	
acc gtg gcc gag gag gtg ctg tgc gcc gcc ttc gcc gag gtg ctg Thr Val Ala Glu Glu Val Leu Cys Ala Ala Phe Ala Glu Val Leu	28436
3125 3130 3135	
ggc gtc gag ccg gtc ggt gtc gac gac gac ttc ttc gcc ctc ggc Gly Val Glu Arg Val Gly Val Asp Asp Asp Phe Phe Ala Leu Gly	28481
3140 3145 3150	
ggc cac tcg ctg ctc atc gtc tcg ctc gtc gag cgc gtc cgc cgc Gly His Ser Leu Leu Ile Val Ser Leu Val Glu Arg Val Arg Arg	28526
3155 3160 3165	

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gcc ggc ctg gcg atc Ala Gly Leu Ala Ile 3170	cgc gtc cgc gcc ctg Pro Val Arg Ala Leu 3175	ttc cgc agc gcc acc Phe Arg Ser Ala Thr 3180	28571
ccg gcc ggg ctg gcc Pro Ala Gly Leu Ala 3185	gcg ctc gcc cgg ccg Ala Leu Ala Arg Pro 3190	tac cgg gtc gac atc Tyr Arg Val Asp Ile 3195	28616
ccg ccc aac ctc gtc Pro Pro Asn Leu Val 3200	cgc gac ggc gcc cgc Pro Asp Gly Ala Arg 3205	gag atc acc ccg gac Glu Ile Thr Pro Asp 3210	28661
atg ctg acc ctg gcc Met Leu Thr Leu Ala 3215	gcg ctc acc gag gcc Ala Leu Thr Glu Ala 3220	gag atc gcc acg gtg Glu Ile Ala Thr Val 3225	28706
ctc gcg acc gtg ccc Leu Ala Thr Val Pro 3230	ggc ggg gcg gtg aac Gly Gly Ala Val Asn 3235	gtg gcc gac atc tat Val Ala Asp Ile Tyr 3240	28751
ccg ctg gcc ccg ctc Pro Leu Ala Pro Leu 3245	cag gag ggc atc ttc Gln Glu Gly Ile Phe 3250	ttc cac cac ctc atg Phe His His Leu Met 3255	28796
gcg gac gcc ggc cgg Ala Asp Ala Gly Arg 3260	gcc gac gcc tac gcg Ala Asp Ala Tyr Ala 3265	atg ccg tac gtg ctg Met Pro Tyr Val Leu 3270	28841
cac ctg gac acg gcg His Leu Asp Thr Ala 3275	gag cgg ctg gac gtc Glu Arg Leu Asp Val 3280	ctc ctc ggc gcc ctc Leu Leu Gly Ala Leu 3285	28886
cag cgg gtg atc gac Gln Arg Val Ile Asp 3290	cgt aac gac atc tac Arg Asn Asp Ile Tyr 3295	cgc acc ggc gtg gtc Arg Thr Gly Val Val 3300	28931
tcg gcc ggc ctg cgc Ser Ala Gly Leu Arg 3305	gaa ccg gtg cag gtg Glu Pro Val Gln Val 3310	gtg tgg cgg tcg gcc Val Trp Arg Ser Ala 3315	28976
gtc ctg ccc gtc gag Val Leu Pro Val Glu 3320	gag gtg gcg ctg gac Glu Val Ala Leu Asp 3325	ggc ggc cac gac ccg Gly Gly His Asp Pro 3330	29021
gtc gag cag ttg ctc Val Glu Gln Leu Leu 3335	gcc gcc gcc ggc gag Ala Ala Ala Gly Glu 3340	gag ttc gac ctg acc Glu Phe Asp Leu Thr 3345	29066
cgg gcg ccg ctg atc Arg Ala Pro Leu Ile 3350	cgg gcg cac gtg gcg Arg Ala His Val Ala 3355	gcg cat ccg gac ggc Ala His Pro Asp Gly 3360	29111
ggc cgg ctg ctc ctg Gly Arg Leu Leu Leu 3365	ctg cgc atc cac cac Leu Arg Ile His His 3370	ctc gtg cag gac cac Leu Val Gln Asp His 3375	29156
acg acg ttc gac gtg Thr Thr Phe Asp Val 3380	gtg ctg ggc gag ctg Val Leu Gly Glu Leu 3385	cgg gcc ttc ctc gag Arg Ala Phe Leu Glu 3390	29201
ggc cgc ggc ggc gag Gly Arg Gly Gly Glu 3395	ctt gcc gag ccg gtg Leu Ala Glu Pro Val 3400	ccg ttc cgc gag ttc Pro Phe Arg Glu Phe 3405	29246

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gtg gcg cag gcg cgg	ctc ggt gtg ccg cgc	gag gag cac gag cgg	29291
Val Ala Gln Ala Arg	Leu Gly Val Pro Arg	Glu Glu His Glu Arg	
3410	3415	3420	
tat ttc gcg gag ttg	ctc ggc gac gtc acc	gag acc acc gcg ccg	29336
Tyr Phe Ala Glu Leu	Leu Gly Asp Val Thr	Glu Thr Thr Ala Pro	
3425	3430	3435	
tac ggc ctg acc gac	gtg cac ggc gac ggc	tcc cgg gcc gtc cag	29381
Tyr Gly Leu Thr Asp	Val His Gly Asp Gly	Ser Arg Ala Val Gln	
3440	3445	3450	
gtc tcg ctg ccg gtc	gcc gag gcc ctc gcc	gtc cgc gtc cgc gag	29426
Val Ser Leu Pro Val	Ala Glu Ala Leu Ala	Val Arg Val Arg Glu	
3455	3460	3465	
gtg gcc cgg aca ctc	ggc gtc agc ccg gcc	acc gtc ttc cac ctg	29471
Val Ala Arg Thr Leu	Gly Val Ser Pro Ala	Thr Val Phe His Leu	
3470	3475	3480	
gcc tgg gcg cgc gtg	ctg agc gtc atc gcg	ggc cgc gac gac gtg	29516
Ala Trp Ala Arg Val	Leu Ser Val Ile Ala	Gly Arg Asp Asp Val	
3485	3490	3495	
gtg ttc gga acc atc	ctc ttc gga cgg atg	aac tcg ggc gcc gcc	29561
Val Phe Gly Thr Ile	Leu Phe Gly Arg Met	Asn Ser Gly Ala Ala	
3500	3505	3510	
gcc gaa cgc gtg ccc	ggc ctg ttc atc aac	acg ctg ccg gtg cgg	29606
Ala Glu Arg Val Pro	Gly Leu Phe Ile Asn	Thr Leu Pro Val Arg	
3515	3520	3525	
gtg cga ctg aac ggc	acg agc gtg ggg gag	gcg ctg acc gcc ctg	29651
Val Arg Leu Asn Gly	Thr Ser Val Gly Glu	Ala Leu Thr Ala Leu	
3530	3535	3540	
cgc gac cag atg gcc	gag ctg atg gcg cac	gag cac gcg ccg ctc	29696
Arg Asp Gln Met Ala	Glu Leu Met Ala His	Glu His Ala Pro Leu	
3545	3550	3555	
gcg ctg gcg cag cgg	gcc ggc ggc gtg ccc	gcg ggc agt ccg ctg	29741
Ala Leu Ala Gln Arg	Ala Gly Gly Val Pro	Ala Gly Ser Pro Leu	
3560	3565	3570	
ttc acg tcg ctg ttc	aac tat cgg cac aac	gtc gcg ggc ggc ggc	29786
Phe Thr Ser Leu Phe	Asn Tyr Arg His Asn	Val Ala Gly Gly Gly	
3575	3580	3585	
gac ggc gga gcg ctc	gag ggc gtc acg ccg	gtg ctg cac cgc gac	29831
Asp Gly Gly Ala Leu	Glu Gly Val Thr Pro	Val Leu His Arg Asp	
3590	3595	3600	
acc acg aac tat ccc	gtg gtg gtc tcg gtc	gac gac gac ggc acg	29876
Thr Thr Asn Tyr Pro	Val Val Val Ser Val	Asp Asp Asp Gly Thr	
3605	3610	3615	
agc ttc gac ctg gtg	gtg gag gcg gtc gcg	ccc gcg gag gcg ggt	29921
Ser Phe Asp Leu Val	Val Glu Ala Val Ala	Pro Ala Glu Ala Gly	
3620	3625	3630	
cgc gtc ggg cgg ctc	atg cac gaa tgc ctg	gcc gag ctg gtg ggc	29966
Arg Val Gly Arg Leu	Met His Glu Cys Leu	Ala Glu Leu Val Gly	
3635	3640	3645	

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gcc	ctg	gcc	ggt	gcg	ccg	gag	acg	ccc	ctg	tcc	cgc	gtg	cgg	gtg	30011
Ala	Leu	Ala	Gly	Ala	Pro	Glu	Thr	Pro	Leu	Ser	Arg	Val	Arg	Val	
				3650					3655					3660	
atc	gac	gag	gcc	gag	atc	gaa	cgg	gtc	gtt	cac	agc	tgg	aac	gac	30056
Ile	Asp	Glu	Ala	Glu	Ile	Glu	Arg	Val	Val	His	Ser	Trp	Asn	Asp	
				3665					3670					3675	
acg	gct	cgc	ccg	gta	gtg	gag	tcg	tcg	gtg	ccg	gcg	ttg	ttc	gcc	30101
Thr	Ala	Arg	Pro	Val	Val	Glu	Ser	Ser	Val	Pro	Ala	Leu	Phe	Ala	
				3680					3685					3690	
gag	cag	gtg	gcg	gct	gcg	ccg	gat	gcg	acg	gcg	gtg	gtg	ggc	gag	30146
Glu	Gln	Val	Ala	Ala	Ala	Pro	Asp	Ala	Thr	Ala	Val	Val	Gly	Glu	
				3695					3700					3705	
ggt	gtg	tcg	tgg	tct	tat	cgc	gag	ctt	gat	gcg	cga	tcg	gat	gcg	30191
Gly	Val	Ser	Trp	Ser	Tyr	Arg	Glu	Leu	Asp	Ala	Arg	Ser	Asp	Ala	
				3710					3715					3720	
ctg	gcc	cgg	agc	ctg	gtg	gcg	gcc	ggt	gtg	ggt	gtg	gag	tcg	ccg	30236
Leu	Ala	Arg	Ser	Leu	Val	Ala	Ala	Gly	Val	Gly	Val	Glu	Ser	Pro	
				3725					3730					3735	
gtg	gtg	gtg	gcg	ttg	gag	cgg	tct	ccc	gag	gtg	ctg	tcc	gcg	ttc	30281
Val	Val	Val	Ala	Leu	Glu	Arg	Ser	Pro	Glu	Val	Leu	Ser	Ala	Phe	
				3740					3745					3750	
ctg	gcg	gtg	gcg	aag	gcc	ggg	ggc	gtg	ttt	gtt	ccg	gtg	gac	ctt	30326
Leu	Ala	Val	Ala	Lys	Ala	Gly	Gly	Val	Phe	Val	Pro	Val	Asp	Leu	
				3755					3760					3765	
tcg	tgg	ccg	cag	gcg	cgt	atc	gat	gcg	gtg	gtt	gct	gac	tgt	gcc	30371
Ser	Trp	Pro	Gln	Ala	Arg	Ile	Asp	Ala	Val	Val	Ala	Asp	Cys	Ala	
				3770					3775					3780	
gcg	cgg	gtt	gcg	gtg	gct	gac	cgg	ccg	atg	agc	ggg	ctg	acg	gtc	30416
Ala	Arg	Val	Ala	Val	Ala	Asp	Arg	Pro	Met	Ser	Gly	Leu	Thr	Val	
				3785					3790					3795	
gtg	ccg	gcc	gac	cag	gtc	ggg	gat	tcg	gct	gtc	gtc	ctg	ccg	gcc	30461
Val	Pro	Ala	Asp	Gln	Val	Gly	Asp	Ser	Ala	Val	Val	Leu	Pro	Ala	
				3800					3805					3810	
ggt	ccg	gtg	ccg	ggt	gcg	gcg	gtc	tac	cgg	atg	tac	acc	tcc	ggc	30506
Gly	Pro	Val	Pro	Gly	Ala	Ala	Val	Tyr	Arg	Met	Tyr	Thr	Ser	Gly	
				3815					3820					3825	
tcc	acg	ggc	cgg	ccc	aag	ggt	gtg	gtg	acc	acc	cac	cag	aac	ctc	30551
Ser	Thr	Gly	Arg	Pro	Lys	Gly	Val	Val	Thr	Thr	His	Gln	Asn	Leu	
				3830					3835					3840	
gtg	gat	ttg	gcg	acc	gac	acg	tgt	tgg	ggt	ccg	acc	ccg	cgg	gtg	30596
Val	Asp	Leu	Ala	Thr	Asp	Thr	Cys	Trp	Gly	Pro	Thr	Pro	Arg	Val	
				3845					3850					3855	
ttg	ttc	cat	gcc	ccg	cac	gcg	ttt	gat	gcg	tcg	tcg	tat	gag	atc	30641
Leu	Phe	His	Ala	Pro	His	Ala	Phe	Asp	Ala	Ser	Ser	Tyr	Glu	Ile	
				3860					3865					3870	
tgg	gtg	ccg	ttg	ttg	aat	ggc	ggc	acg	gtc	gtg	gtc	gct	ccg	cag	30686
Trp	Val	Pro	Leu	Leu	Asn	Gly	Gly	Thr	Val	Val	Val	Ala	Pro	Gln	
				3875					3880					3885	

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cgc agc atc gac gcg acg gtc ttg agg gac ctg atc cgc ggg cat Arg Ser Ile Asp Ala Thr Val Leu Arg Asp Leu Ile Arg Gly His 3890 3895 3900	30731
gag ttg acg cac gtg cat gtg acc gcc ggt ctg ttg cgg gtg ctg Glu Leu Thr His Val His Val Thr Ala Gly Leu Leu Arg Val Leu 3905 3910 3915	30776
gac ccg tcg tgt ttt gcg ggg ctg acc gag gtt ttg acc ggc ggg Asp Pro Ser Cys Phe Ala Gly Leu Thr Glu Val Leu Thr Gly Gly 3920 3925 3930	30821
gat gcg gtg tcg gcg gag gcg gtg cgc cgg gtc cgg gaa gcg aac Asp Ala Val Ser Ala Glu Ala Val Arg Arg Val Arg Glu Ala Asn 3935 3940 3945	30866
ccg ggt ctg cgg gtg cgg cag ctt tat ggc ccg acc gag gtg acc Pro Gly Leu Arg Val Arg Gln Leu Tyr Gly Pro Thr Glu Val Thr 3950 3955 3960	30911
ttg tgc gcg acg cag cat ctg ctg gtc gac ggg gtg ccg atc ggg Leu Cys Ala Thr Gln His Leu Leu Val Asp Gly Val Pro Ile Gly 3965 3970 3975	30956
cgg ccg ttg gac aac acc cgc gtg tat gtc ctg gat gac ttg ctg Arg Pro Leu Asp Asn Thr Arg Val Tyr Val Leu Asp Asp Leu Leu 3980 3985 3990	31001
cag ccg gtc ccg gtc ggt gtg act ggc gag ctg tat gtg gcc ggg Gln Pro Val Pro Val Gly Val Thr Gly Glu Leu Tyr Val Ala Gly 3995 4000 4005	31046
gcc ggc ttg gcg cgt ggc tat gcg ggc atg ccc ggg ttg acg gcc Ala Gly Leu Ala Arg Gly Tyr Ala Gly Met Pro Gly Leu Thr Ala 4010 4015 4020	31091
gag cgg ttc gtc gcc gac ccg ttc tcg gtt ggt ggt cgc ctc tac Glu Arg Phe Val Ala Asp Pro Phe Ser Val Gly Gly Arg Leu Tyr 4025 4030 4035	31136
cgc acg ggt gat ctg gtc cgc tgg act gac gac ggg gtg ctg cat Arg Thr Gly Asp Leu Val Arg Trp Thr Asp Asp Gly Val Leu His 4040 4045 4050	31181
ttc gcc ggg cgg gcc gat gat cag gtg aag att cgt ggc tat cgg Phe Ala Gly Arg Ala Asp Asp Gln Val Lys Ile Arg Gly Tyr Arg 4055 4060 4065	31226
gtg gag ccg ggc gag gtt gaa gcg gtc ctg gct caa cac ccc gac Val Glu Pro Gly Glu Val Glu Ala Val Leu Ala Gln His Pro Asp 4070 4075 4080	31271
gtc agc cag gtg gca gtg gtc gtc cgc gag gac acg cca ggg gat Val Ser Gln Val Ala Val Val Val Arg Glu Asp Thr Pro Gly Asp 4085 4090 4095	31316
aag cgg ctg gtc gcc tat gtc gtc ggc ggt gac gtc gag gcg tat Lys Arg Leu Val Ala Tyr Val Val Gly Gly Asp Val Glu Ala Tyr 4100 4105 4110	31361
gcg cag gag cgc ctt ccg ggc tac ctg gtc ccg tcg gca ttc gta Ala Gln Glu Arg Leu Pro Gly Tyr Leu Val Pro Ser Ala Phe Val 4115 4120 4125	31406

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cat	ctg	gat	gcg	ctg	ccg	ctg	acc	agc	aac	cag	aag	gtc	gac	cgg	31451
His	Leu	Asp	Ala	Leu	Pro	Leu	Thr	Ser	Asn	Gln	Lys	Val	Asp	Arg	
				4130					4135					4140	
gcc	gca	ctg	ccc	gcg	ccg	tcc	gtg	gag	tcc	ggc	gtc	ggg	cgg	gcg	31496
Ala	Ala	Leu	Pro	Ala	Pro	Ser	Val	Glu	Ser	Gly	Val	Gly	Arg	Ala	
				4145					4150					4155	
ccc	gcc	gac	gcg	cgt	gaa	gag	ctg	atg	tgt	gcc	gcg	ttc	gct	gag	31541
Pro	Ala	Asp	Ala	Arg	Glu	Glu	Leu	Met	Cys	Ala	Ala	Phe	Ala	Glu	
				4160					4165					4170	
gtg	ctc	gac	ctg	gat	cgg	gtc	ggg	gtc	gac	gac	gac	ttc	ttc	gct	31586
Val	Leu	Asp	Leu	Asp	Arg	Val	Gly	Val	Asp	Asp	Asp	Phe	Phe	Ala	
				4175					4180					4185	
ttg	ggg	ggg	cat	tcg	ctg	ttg	gtg	gtg	cgg	ttg	gtg	ggc	cgt	att	31631
Leu	Gly	Gly	His	Ser	Leu	Leu	Val	Val	Arg	Leu	Val	Gly	Arg	Ile	
				4190					4195					4200	
cgg	cag	gtg	ttc	ggg	gtg	gag	gtg	tcg	gct	cgg	ctg	gtc	ttc	gat	31676
Arg	Gln	Val	Phe	Gly	Val	Glu	Val	Ser	Ala	Arg	Leu	Val	Phe	Asp	
				4205					4210					4215	
gcg	cgg	act	ccg	gcc	ggg	gtg	gtg	gcc	cgc	ttg	tcc	gag	ggc	ggc	31721
Ala	Arg	Thr	Pro	Ala	Gly	Val	Val	Ala	Arg	Leu	Ser	Glu	Gly	Gly	
				4220					4225					4230	
acg	gcc	cgg	gag	gcc	gta	cgg	gcg	cgg	gtg	cgt	ccg	gcg	cgg	gtg	31766
Thr	Ala	Arg	Glu	Ala	Val	Arg	Ala	Arg	Val	Arg	Pro	Ala	Arg	Val	
				4235					4240					4245	
ccg	ttg	tcg	ttc	gcg	caa	cgc	cgg	ttg	tgg	ttc	ctg	tcc	cag	ctg	31811
Pro	Leu	Ser	Phe	Ala	Gln	Arg	Arg	Leu	Trp	Phe	Leu	Ser	Gln	Leu	
				4250					4255					4260	
gag	ggg	ccg	agc	gcg	acc	tac	aac	atc	ccg	gtg	gcg	ctg	cgg	ctg	31856
Glu	Gly	Pro	Ser	Ala	Thr	Tyr	Asn	Ile	Pro	Val	Ala	Leu	Arg	Leu	
				4265					4270					4275	
gac	ggg	cct	ctg	gat	cgc	gat	gct	cta	acg	gcg	gcg	ttg	cac	gat	31901
Asp	Gly	Pro	Leu	Asp	Arg	Asp	Ala	Leu	Thr	Ala	Ala	Leu	His	Asp	
				4280					4285					4290	
gtg	gtg	gcc	cgg	cac	gag	gtg	ttg	cgt	acc	gtc	ttc	acc	gtc	gcc	31946
Val	Val	Ala	Arg	His	Glu	Val	Leu	Arg	Thr	Val	Phe	Thr	Val	Ala	
				4295					4300					4305	
gac	ggc	gag	ccg	tgg	caa	cag	atc	ctc	gac	gat	ccg	cag	gtc	tcc	31991
Asp	Gly	Glu	Pro	Trp	Gln	Gln	Ile	Leu	Asp	Asp	Pro	Gln	Val	Ser	
				4310					4315					4320	
gtt	ccg	gtc	gtc	gag	gtc	acg	ccc	gac	cgg	ctg	ccc	gag	gcg	gtg	32036
Val	Pro	Val	Val	Glu	Val	Thr	Pro	Asp	Arg	Leu	Pro	Glu	Ala	Val	
				4325					4330					4335	
gcc	gtc	gcc	gcg	ggg	cac	cgg	ttc	gac	ctc	ggc	cgg	gaa	ctg	cgg	32081
Ala	Val	Ala	Ala	Gly	His	Arg	Phe	Asp	Leu	Gly	Arg	Glu	Leu	Pro	
				4340					4345					4350	
ctg	cgg	gcg	gtc	ctg	ctg	gcg	acc	ggc	gac	gac	gtg	cac	gtg	ctg	32126
Leu	Arg	Ala	Val	Leu	Leu	Ala	Thr	Gly	Asp	Asp	Val	His	Val	Leu	
				4355					4360					4365	

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gtg ctc gtg gtg cat	cac att gcc gcc gac	ggc tgg tcg atg cgg	32171
Val Leu Val Val His	His Ile Ala Ala Asp	Gly Trp Ser Met Arg	
4370	4375	4380	
ccg ctc gcc cgg gac	ttg gcg gcc gcc tac	gcg gcc agg atc gac	32216
Pro Leu Ala Arg Asp	Leu Ala Ala Ala Tyr	Ala Ala Arg Ile Asp	
4385	4390	4395	
gcg acg gcg ccg gcc	ctc ggc gcg ctg ccg	gtg cag tac gcc gac	32261
Ala Thr Ala Pro Ala	Leu Gly Ala Leu Pro	Val Gln Tyr Ala Asp	
4400	4405	4410	
tac gcc ctc tgg cag	cgc gac gtg ctc ggt	tcc gag cac gac ccg	32306
Tyr Ala Leu Trp Gln	Arg Asp Val Leu Gly	Ser Glu His Asp Pro	
4415	4420	4425	
gac agc gtc atc tcc	caa cag gtt gcc tat	tgg cgg cgg cag ctg	32351
Asp Ser Val Ile Ser	Gln Gln Val Ala Tyr	Trp Arg Arg Gln Leu	
4430	4435	4440	
gcc ggc gta ccg gag	gaa ttg gat ctg ccg	gtg gac cgg gcg cgc	32396
Ala Gly Val Pro Glu	Glu Leu Asp Leu Pro	Val Asp Arg Ala Arg	
4445	4450	4455	
ccg gcc gag gca tcg	cat cgc ggc cac acc	gtg gag ttc gcc gtg	32441
Pro Ala Glu Ala Ser	His Arg Gly His Thr	Val Glu Phe Ala Val	
4460	4465	4470	
ccc ccg gcc gtg cac	cac caa ctc gcc gaa	ctc gcc cgc cgc aac	32486
Pro Pro Ala Val His	His Gln Leu Ala Glu	Leu Ala Arg Arg Asn	
4475	4480	4485	
ggc gtc acc gtc ttc	atg acc gtg caa acc	gcc ctc gcc gtc ctc	32531
Gly Val Thr Val Phe	Met Thr Val Gln Thr	Ala Leu Ala Val Leu	
4490	4495	4500	
ctg tcc aaa ctc ggc	gcc ggc acc gac atc	ccc atc ggc gtc gcc	32576
Leu Ser Lys Leu Gly	Ala Gly Thr Asp Ile	Pro Ile Gly Val Ala	
4505	4510	4515	
gtc gcc gga cgc acc	gac ccc acc ctc gac	aac ctc atc ggc ttc	32621
Val Ala Gly Arg Thr	Asp Pro Thr Leu Asp	Asn Leu Ile Gly Phe	
4520	4525	4530	
ttc gtc aac acc ctc	gtc cta cgc acc gac	ctg acc ggc aac ccc	32666
Phe Val Asn Thr Leu	Val Leu Arg Thr Asp	Leu Thr Gly Asn Pro	
4535	4540	4545	
acc atc acc gac ctg	ctg cac cgc acc cgc	gac acc acc ctg cac	32711
Thr Ile Thr Asp Leu	Leu His Arg Thr Arg	Asp Thr Thr Leu His	
4550	4555	4560	
gcc ttc acc cac caa	gac gtc ccc ttc gaa	aaa ctc gtc gaa gac	32756
Ala Phe Thr His Gln	Asp Val Pro Phe Glu	Lys Leu Val Glu Asp	
4565	4570	4575	
ctc gca ccc acc cgc	tcc ctc gcc cgc cac	ccc ctc ttc cag gtc	32801
Leu Ala Pro Thr Arg	Ser Leu Ala Arg His	Pro Leu Phe Gln Val	
4580	4585	4590	
atg atg acc ctg cag	agc gcg tcg gcg gac	gaa gag ccg ctg gcg	32846
Met Met Thr Leu Gln	Ser Ala Ser Ala Asp	Glu Glu Pro Leu Ala	
4595	4600	4605	

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ctc gcc ggg ctg cgg	gtc acc gac ctc ccg	gcc ggg gag aca ccc	32891
Leu Ala Gly Leu Arg	Val Thr Asp Leu Pro	Ala Gly Glu Thr Pro	
4610	4615	4620	
gcc aag gtg gac ctc	gac ctg acg ctg cac	gag gtg gcg ggc cga	32936
Ala Lys Val Asp Leu	Asp Leu Thr Leu His	Glu Val Ala Gly Arg	
4625	4630	4635	
gac ggc atg cac gcc	acg ctc ctc ggc gcg	gcc gac ctc ttc gag	32981
Asp Gly Met His Ala	Thr Leu Leu Gly Ala	Ala Asp Leu Phe Glu	
4640	4645	4650	
cag gag acg gtg cgc	gcc ctc gcc gac cgg	ttg ctg cga acc ctg	33026
Gln Glu Thr Val Arg	Ala Leu Ala Asp Arg	Leu Leu Arg Thr Leu	
4655	4660	4665	
gaa gcc atg gcg gcg	gcc ccg gac gac cgc	ctc gac cgg atc gag	33071
Glu Ala Met Ala Ala	Ala Pro Asp Asp Arg	Leu Asp Arg Ile Glu	
4670	4675	4680	
gtg ctg tcg ccg ggg	gag cgg tcg ccg ctg	ctg gtg gag tgg aac	33116
Val Leu Ser Pro Gly	Glu Arg Ser Arg Leu	Leu Val Glu Trp Asn	
4685	4690	4695	
gac acg gct cgt ccg	gtg gtg gag tcg tcg	gtg ccg gcg ttg ttc	33161
Asp Thr Ala Arg Pro	Val Val Glu Ser Ser	Val Pro Ala Leu Phe	
4700	4705	4710	
gcc gag cag gtg gcg	gct gcg ccg gac gcg	gtc gcg gtg gtg ggc	33206
Ala Glu Gln Val Ala	Ala Ala Pro Asp Ala	Val Ala Val Val Gly	
4715	4720	4725	
gag ggt gtg tcg tgg	acc tat cgc gag ctt	gat gcg cgg tcg gat	33251
Glu Gly Val Ser Trp	Thr Tyr Arg Glu Leu	Asp Ala Arg Ser Asp	
4730	4735	4740	
gcg ttg gcg ccg agc	ctg gtg gcg gcg ggt	gtg ggt gtg gag tcg	33296
Ala Leu Ala Arg Ser	Leu Val Ala Ala Gly	Val Gly Val Glu Ser	
4745	4750	4755	
ccg gtg gtg gtg gcg	ttg gag ccg tct ccg	gag gtg ctg tcc gcg	33341
Pro Val Val Val Ala	Leu Glu Arg Ser Pro	Glu Val Leu Ser Ala	
4760	4765	4770	
ttt ttg gcg gtg gcg	aag gcc ggg ggc gtg	ttt gtt ccg gtg gat	33386
Phe Leu Ala Val Ala	Lys Ala Gly Gly Val	Phe Val Pro Val Asp	
4775	4780	4785	
ttg tcg tgg ccg cag	gcg cgt gtc gat gcg	gtg gtt gcg gac tgc	33431
Leu Ser Trp Pro Gln	Ala Arg Val Asp Ala	Val Val Ala Asp Cys	
4790	4795	4800	
ggc gcg ccg att gcg	gtg gct gac ccg ccg	atg agc ggg ctg acg	33476
Gly Ala Arg Ile Ala	Val Ala Asp Arg Pro	Met Ser Gly Leu Thr	
4805	4810	4815	
gtc gtg tcc gcc ggc	ctg ggc ggg gat tcg	gcc gtc gtg tcc ggc	33521
Val Val Ser Ala Gly	Leu Gly Gly Asp Ser	Ala Val Val Ser Gly	
4820	4825	4830	
gac ctg acc gcg gat	ccg gcc gtt gtg ttg	ccg gcc ggt ccg gtg	33566
Asp Leu Thr Ala Asp	Arg Ala Val Val Leu	Pro Ala Gly Pro Val	
4835	4840	4845	

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ccg ggt gcg gcg gtc	tac cgc atg tac acc	tcg ggt tcc acg ggt	33611
Pro Gly Ala Ala Val	Tyr Arg Met Tyr Thr	Ser Gly Ser Thr Gly	
4850	4855	4860	
cgg ccc aag ggt gtg	gtg acc acc cac cag	aac ctc gtg gat ttg	33656
Arg Pro Lys Gly Val	Val Thr Thr His Gln	Asn Leu Val Asp Leu	
4865	4870	4875	
gcg acc gac acg tgt	tgg ggt ccg acc ccg	cgg gtg ctt ttc cac	33701
Ala Thr Asp Thr Cys	Trp Gly Pro Thr Pro	Arg Val Leu Phe His	
4880	4885	4890	
gcc ccg cac gcc ttc	gac gcg tcg tcg tat	gag att tgg gtg ccg	33746
Ala Pro His Ala Phe	Asp Ala Ser Ser Tyr	Glu Ile Trp Val Pro	
4895	4900	4905	
ttg ttg aat ggc ggc	acg gtc gtg gtg gct	ccg cgg cgc agc atc	33791
Leu Leu Asn Gly Gly	Thr Val Val Val Ala	Pro Arg Arg Ser Ile	
4910	4915	4920	
gac gcg acg gtc ttg	agg gac ctg atc ggc	gcg cat gag ttg acg	33836
Asp Ala Thr Val Leu	Arg Asp Leu Ile Gly	Ala His Glu Leu Thr	
4925	4930	4935	
cac gtg cat gtg acc	gcg ggc ttg ttg ccg	gtg ctg gac ccg tcg	33881
His Val His Val Thr	Ala Gly Leu Leu Arg	Val Leu Asp Pro Ser	
4940	4945	4950	
tgc ttc gcg ggc ctg	acc gag gtg ctc acg	ggc ggg gat gcg gtg	33926
Cys Phe Ala Gly Leu	Thr Glu Val Leu Thr	Gly Gly Asp Ala Val	
4955	4960	4965	
tcg gcc gag gcg gtg	cgc cgc gtc aaa gac	gcg aat ccg ggt ctg	33971
Ser Ala Glu Ala Val	Arg Arg Val Lys Asp	Ala Asn Pro Gly Leu	
4970	4975	4980	
cgg gtg cgg cag ctg	tac ggc ccg acc gag	gtg acc ttg tgc gcc	34016
Arg Val Arg Gln Leu	Tyr Gly Pro Thr Glu	Val Thr Leu Cys Ala	
4985	4990	4995	
acg cag cat ctg ctg	gat gac ggg gtg ccg	atc ggg cgg ccg ttg	34061
Thr Gln His Leu Leu	Asp Asp Gly Val Pro	Ile Gly Arg Pro Leu	
5000	5005	5010	
gac aac acc cgc gtc	tac gtt ctc gac gac	ctc ctg cgg ccg gtc	34106
Asp Asn Thr Arg Val	Tyr Val Leu Asp Asp	Leu Leu Arg Pro Val	
5015	5020	5025	
ccg aca ggt gtg gtg	ggg gag ctg tat gtg	gcc ggg tcg ggt ctg	34151
Pro Thr Gly Val Val	Gly Glu Leu Tyr Val	Ala Gly Ser Gly Leu	
5030	5035	5040	
gcg cgg ggc tat gcg	ggc atg ccc ggg ttg	acg gcc gag cga ttc	34196
Ala Arg Gly Tyr Ala	Gly Met Pro Gly Leu	Thr Ala Glu Arg Phe	
5045	5050	5055	
gtc gcc gac cca ttc	aac acc ggc ggt cgc	ctc tac cgc acg ggt	34241
Val Ala Asp Pro Phe	Asn Thr Gly Gly Arg	Leu Tyr Arg Thr Gly	
5060	5065	5070	
gat ctg gtg cgg tgg	gcc gac gat ggt gtg	ctg cat ttc gct ggg	34286
Asp Leu Val Arg Trp	Ala Asp Asp Gly Val	Leu His Phe Ala Gly	
5075	5080	5085	

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cgg gcc gat gat cag gtg aag att cgt ggc tat cgg gtg gag ccg Arg Ala Asp Asp Gln Val Lys Ile Arg Gly Tyr Arg Val Glu Pro 5090 5095 5100	34331
ggc gag gtt gaa gcg gtc ctg gct caa cac ccc gac gtc agc cag Gly Glu Val Glu Ala Val Leu Ala Gln His Pro Asp Val Ser Gln 5105 5110 5115	34376
gta gca gtg gtc gtc cgc gag gac acc cca ggc gac aag cgc ctg Val Ala Val Val Val Arg Glu Asp Thr Pro Gly Asp Lys Arg Leu 5120 5125 5130	34421
gtc gcc tac gtc gtc ggc ggg gat gtc gag gcg tat gcg cag gag Val Ala Tyr Val Val Gly Gly Asp Val Glu Ala Tyr Ala Gln Glu 5135 5140 5145	34466
cgc ctt ccg ggc tac atg gtt ccg tcg gct ttc gtg cag ttg gat Arg Leu Pro Gly Tyr Met Val Pro Ser Ala Phe Val Gln Leu Asp 5150 5155 5160	34511
gcg ctg ccg ctg acc agc aac cag aag gtc gac cgg gcc gct ctc Ala Leu Pro Leu Thr Ser Asn Gln Lys Val Asp Arg Ala Ala Leu 5165 5170 5175	34556
ccg gcg cca tcc atg gag tct ggc gcc ggc cgg gca ccc gcc gac Pro Ala Pro Ser Met Glu Ser Gly Ala Gly Arg Ala Pro Ala Asp 5180 5185 5190	34601
gcg cgt gaa gag ctg atg tgt gcc gcg ttc gcc gag gtg ctc gac Ala Arg Glu Glu Leu Met Cys Ala Ala Phe Ala Glu Val Leu Asp 5195 5200 5205	34646
ctg gat cgg gtc ggt gtc gac gac gac ttc ttc gcc ctc ggc ggg Leu Asp Arg Val Gly Val Asp Asp Asp Phe Phe Ala Leu Gly Gly 5210 5215 5220	34691
cat tcg ctg ctc gcc gtc tcc ctc gtg gag aat ctg cgc cgc cac His Ser Leu Leu Ala Val Ser Leu Val Glu Asn Leu Arg Arg His 5225 5230 5235	34736
ggc gtt cac atc tcc gtt cgg gcc ctc ttc gcc acc ccc acg ccg Gly Val His Ile Ser Val Arg Ala Leu Phe Ala Thr Pro Thr Pro 5240 5245 5250	34781
gcc gcg ctg gcc gcc tcg gcg gga acc gcc gtc ccg gac gtg ccg Ala Ala Leu Ala Ala Ser Ala Gly Thr Ala Val Pro Asp Val Pro 5255 5260 5265	34826
ccc aac ctc atc ccc cag ggc ggc gcc cag gaa ctg acc ccc gac Pro Asn Leu Ile Pro Gln Gly Gly Ala Gln Glu Leu Thr Pro Asp 5270 5275 5280	34871
atg ctg ccc ctg gtc gac ctg acc ggc gag gaa ctg gcc acc atc Met Leu Pro Leu Val Asp Leu Thr Gly Glu Glu Leu Ala Thr Ile 5285 5290 5295	34916
gtg gcc gcg gtg ccc ggc ggc gct ccc aac atc gcc gac atc tac Val Ala Ala Val Pro Gly Gly Ala Pro Asn Ile Ala Asp Ile Tyr 5300 5305 5310	34961
ccc cta gcc ccg ctg caa gag ggc atc ttc ttc cac cac ctc atg Pro Leu Ala Pro Leu Gln Glu Gly Ile Phe Phe His His Leu Met 5315 5320 5325	35006

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acc gag ggc gat gcc	acc gac gtc tac ctc	ctg ccg cgg att ctc	35051
Thr Glu Gly Asp Ala	Thr Asp Val Tyr Leu	Leu Pro Arg Ile Leu	
5330	5335	5340	
ggc ttc ggc ggc cgt	ccc gag ctg gac gcc	ttc ctc ggg gcc ctg	35096
Gly Phe Gly Gly Arg	Pro Glu Leu Asp Ala	Phe Leu Gly Ala Leu	
5345	5350	5355	
cag cag gtg gtg gac	cgc cac gac gtc tat	cgc acg gcc atc gcc	35141
Gln Gln Val Val Asp	Arg His Asp Val Tyr	Arg Thr Ala Ile Ala	
5360	5365	5370	
tgg cag aac ctg cgc	gag ccc gtc cag gtc	gtg cac cgc cac gcc	35186
Trp Gln Asn Leu Arg	Glu Pro Val Gln Val	Val His Arg His Ala	
5375	5380	5385	
acc ctg ccc gtc acc	gaa gtc acc ccc gac	cag ctg cac gcc gcc	35231
Thr Leu Pro Val Thr	Glu Val Thr Pro Asp	Gln Leu His Ala Ala	
5390	5395	5400	
gcc acc ggc ggc cgg	ctc ccg ctc gac cac	gca ccc ctg ctc agc	35276
Ala Thr Gly Gly Arg	Leu Pro Leu Asp His	Ala Pro Leu Leu Ser	
5405	5410	5415	
gtc cac atc gca ccc	gaa ccc gac ggc ggc	tgg ctc gcc ctg ctc	35321
Val His Ile Ala Pro	Glu Pro Asp Gly Gly	Trp Leu Ala Leu Leu	
5420	5425	5430	
cgc atg cac cac ctc	gtg cag gac cac acc	gcc ctc gac atc gtc	35366
Arg Met His His Leu	Val Gln Asp His Thr	Ala Leu Asp Ile Val	
5435	5440	5445	
ctc gac gag atc cgc	acc atc ctc gcc ggc	gca acc gac cac ctc	35411
Leu Asp Glu Ile Arg	Thr Ile Leu Ala Gly	Ala Thr Asp His Leu	
5450	5455	5460	
ccc ccg ccc gta ccg	ttc cgc gac ttc gtg	gcg cag gcc cgc ctc	35456
Pro Pro Pro Val Pro	Phe Arg Asp Phe Val	Ala Gln Ala Arg Leu	
5465	5470	5475	
ggc gtc tcc cgc gcg	gag cag gag cgc tac	ttc gcc ggc ctg ctc	35501
Gly Val Ser Arg Ala	Glu Gln Glu Arg Tyr	Phe Ala Gly Leu Leu	
5480	5485	5490	
ggc gac gtc acc gag	acc acc gcc ccg tac	ggc ctg gcc gac gtg	35546
Gly Asp Val Thr Glu	Thr Thr Ala Pro Tyr	Gly Leu Ala Asp Val	
5495	5500	5505	
acg aac gac ggc acc	gca tcg gtg ccg gcc	gag gtc gag ctc gac	35591
Thr Asn Asp Gly Thr	Ala Ser Val Arg Ala	Glu Val Glu Leu Asp	
5510	5515	5520	
gcg gcc ctg gcg gcc	cgg ctg cgc gac ctc	gcc cgc gac ccg gcc	35636
Ala Ala Leu Ala Ala	Arg Leu Arg Asp Leu	Ala Arg Asp Arg Gly	
5525	5530	5535	
gtc agc ccg gcg acg	gtc ttc cat ctg gcc	tgg gcg cgc gtg ctg	35681
Val Ser Pro Ala Thr	Val Phe His Leu Ala	Trp Ala Arg Val Leu	
5540	5545	5550	
gcg gcg gtg gcc gac	cgg gag gac gtc gtc	ttc ggc acc gtc ctg	35726
Ala Ala Val Ala Asp	Arg Glu Asp Val Val	Phe Gly Thr Val Leu	
5555	5560	5565	

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ttc gga cgg atg gcc	tcc ggc gcc cgg cgg	gtg ccc ggc ctc ttc	35771
Phe Gly Arg Met Ala	Ser Gly Ala Arg Arg	Val Pro Gly Leu Phe	
5570	5575	5580	
atg aac acc ctg ccg	gtt cgc gta cgc ctg	tcc gga acc gcc gcc	35816
Met Asn Thr Leu Pro	Val Arg Val Arg Leu	Ser Gly Thr Ala Ala	
5585	5590	5595	
gag gct ctg gga cag	gtg cgc gac cgg ctc	gcc gag ctg atg gcg	35861
Glu Ala Leu Gly Gln	Val Arg Asp Arg Leu	Ala Glu Leu Met Ala	
5600	5605	5610	
cac gag cac gcg ccg	ctc gcg ctg gcc cag	cag gcg agc ggc ctg	35906
His Glu His Ala Pro	Leu Ala Leu Ala Gln	Gln Ala Ser Gly Leu	
5615	5620	5625	
ccc gcc ggg agc ccg	ctg ttc acg tcg ttg	ttc aac tac cgc tat	35951
Pro Ala Gly Ser Pro	Leu Phe Thr Ser Leu	Phe Asn Tyr Arg Tyr	
5630	5635	5640	
gcc cgg ccg ccg gcc	gcc acg ccg gac gat	ccg ctg gcg ggg gtg	35996
Ala Arg Pro Pro Ala	Ala Thr Pro Asp Asp	Pro Leu Ala Gly Val	
5645	5650	5655	
cgc acg ctg ttc gcg	tgg gaa cgc aac aac	tac ccg gtc acc gtg	36041
Arg Thr Leu Phe Ala	Trp Glu Arg Asn Asn	Tyr Pro Val Thr Val	
5660	5665	5670	
tcg atc gac gac gac	ggc acc gga ttc gcg	gtc acg gtc gac gtc	36086
Ser Ile Asp Asp Asp	Gly Thr Gly Phe Ala	Val Thr Val Asp Val	
5675	5680	5685	
gtg gcg ccg gcc gac	gcc gac gag gtc gtc	cgc ctg ctc cgc acg	36131
Val Ala Pro Ala Asp	Ala Asp Glu Val Val	Arg Leu Leu Arg Thr	
5690	5695	5700	
acc ctg acc cgc ctg	gcc gcc gcc ctc gaa	cgc act ccc gag atg	36176
Thr Leu Thr Arg Leu	Ala Ala Ala Leu Glu	Arg Thr Pro Glu Met	
5705	5710	5715	
ccg gtg gcc gac gtg	cgg ccc ggc cgc gtg	tcc cgg ccc gcc gcc	36221
Pro Val Ala Asp Val	Arg Pro Gly Arg Val	Ser Arg Pro Ala Ala	
5720	5725	5730	
ggc cgc gcg gtg ctc	gtg ccg gtc ccg gcc	ggc gag cgg gcg acc	36266
Gly Arg Ala Val Leu	Val Pro Val Pro Ala	Gly Glu Arg Ala Thr	
5735	5740	5745	
ggc gcg gcc cgg gct	ccg gcc acg gcg tac	gag gag ctg atc tgc	36311
Gly Ala Gly Arg Ala	Pro Ala Thr Ala Tyr	Glu Glu Leu Ile Cys	
5750	5755	5760	
cag gcg tac gcc cag	gtg ctg gag gtt gac	cgg gtg gcg gcc gac	36356
Gln Ala Tyr Ala Gln	Val Leu Glu Val Asp	Arg Val Ala Ala Asp	
5765	5770	5775	
gac gac ttc ttc gcc	ctg ggc gcc aac tcg	ctg ctc gcc acg cgg	36401
Asp Asp Phe Phe Ala	Leu Gly Gly Asn Ser	Leu Leu Ala Thr Arg	
5780	5785	5790	
ctg gtc agc cgg atc	cgc tcg gcg ctg ggc	gtg gag gtc acc atc	36446
Leu Val Ser Arg Ile	Arg Ser Ala Leu Gly	Val Glu Val Thr Ile	
5795	5800	5805	

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cgc gcg ctc ttc gag acg ctc acc ccg caa cgg ctg gcc gcc cgg	36491
Arg Ala Leu Phe Glu Thr Leu Thr Pro Gln Arg Leu Ala Ala Arg	
5810 5815 5820	
ctg acc cgc gcc tcg gca ccc ggg cgg gtc gca ccc gcg ccg agg	36536
Leu Thr Arg Ala Ser Ala Pro Gly Arg Val Ala Pro Ala Pro Arg	
5825 5830 5835	
aca cgg ccg gag cgg att ccg ctg tcc ttc gcg caa cgg cgc ctg	36581
Thr Arg Pro Glu Arg Ile Pro Leu Ser Phe Ala Gln Arg Arg Leu	
5840 5845 5850	
tgg ttc ctg ggc gag ctg gag ggc agc agc gcc acc tac agc aac	36626
Trp Phe Leu Gly Glu Leu Glu Gly Ser Ser Ala Thr Tyr Ser Asn	
5855 5860 5865	
acg acc gcg ctg cgg ctc tcc ggc gag ctc gac ccg gcc gcg ctc	36671
Thr Thr Ala Leu Arg Leu Ser Gly Glu Leu Asp Pro Ala Ala Leu	
5870 5875 5880	
acc gcg gcg ctg cac gac gtg atc ggc cgg cac gag gtg ctg cgc	36716
Thr Ala Ala Leu His Asp Val Ile Gly Arg His Glu Val Leu Arg	
5885 5890 5895	
acg gtg atc ccg gcc gag gac ggc cgg ccg tac cag ctg gtt ctc	36761
Thr Val Ile Pro Ala Glu Asp Gly Arg Pro Tyr Gln Leu Val Leu	
5900 5905 5910	
ccg ccc gag gag gca cgg ccg gcg gtg gag atc gtc gag gtc gct	36806
Pro Pro Glu Glu Ala Arg Pro Ala Val Glu Ile Val Glu Val Ala	
5915 5920 5925	
ccc ggc gag ctt ggc gcg gcc gtc gac gag gtg gcc ggt tac gcg	36851
Pro Gly Glu Leu Gly Ala Ala Val Asp Glu Val Ala Gly Tyr Ala	
5930 5935 5940	
ttc gac ctc gcc gcc gag ata ccg gtc cgc gcc cgg ctg atc cgg	36896
Phe Asp Leu Ala Ala Glu Ile Pro Val Arg Ala Arg Leu Ile Arg	
5945 5950 5955	
ctg ggc gcg acc gac cac gtc ctc gtc ctg gtg atc cac cac atc	36941
Leu Gly Ala Thr Asp His Val Leu Val Leu Val Ile His His Ile	
5960 5965 5970	
gcc acc gac gga tgg tcg atg gcg ccg ctc gcc cgc gac ctc gcc	36986
Ala Thr Asp Gly Trp Ser Met Ala Pro Leu Ala Arg Asp Leu Ala	
5975 5980 5985	
gcc gcc tac gag gcc cgg ctg gcc ggc cgg gca ccg cgc tgg gag	37031
Ala Ala Tyr Glu Ala Arg Leu Ala Gly Arg Ala Pro Arg Trp Glu	
5990 5995 6000	
ccg ctg ccg ctg cag tac gcc gac tac gcg ctc tgg cag gag gag	37076
Pro Leu Pro Leu Gln Tyr Ala Asp Tyr Ala Leu Trp Gln Glu Glu	
6005 6010 6015	
ttg ctg ggc gcg gcc ggt gac ccg gag agc ctg cgc gag cgc cag	37121
Leu Leu Gly Ala Ala Gly Asp Pro Glu Ser Leu Arg Glu Arg Gln	
6020 6025 6030	
ctc gcc tac tgg cgc gac acc ctg gcc ggg atg ccg ccg gag atc	37166
Leu Ala Tyr Trp Arg Asp Thr Leu Ala Gly Met Pro Pro Glu Ile	
6035 6040 6045	

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ccg	ctt	ccg	gcc	gac	cg	ttc	cgc	ccg	ccg	gtg	gcc	tcg	cac	cgc	37211
Pro	Leu	Pro	Ala	Asp	Arg	Ser	Arg	Pro	Pro	Val	Ala	Ser	His	Arg	
				6050					6055					6060	
ggc	ggc	gag	gtg	ccg	atc	gcc	ata	ccc	gcc	gac	ctg	cac	cgc	cgc	37256
Gly	Gly	Glu	Val	Pro	Ile	Ala	Ile	Pro	Ala	Asp	Leu	His	Arg	Arg	
				6065					6070					6075	
ctg	gcc	gag	ctg	gcc	gtc	gcc	gag	cgg	gcc	acc	ctc	ttc	atg	gtt	37301
Leu	Ala	Glu	Leu	Ala	Val	Ala	Glu	Arg	Ala	Thr	Leu	Phe	Met	Val	
				6080					6085					6090	
ctg	cag	gcc	ggc	ttc	ggc	ggc	ctg	ctg	agc	cgg	ctg	ggt	gcc	ggc	37346
Leu	Gln	Ala	Gly	Phe	Ala	Ala	Leu	Leu	Ser	Arg	Leu	Gly	Ala	Gly	
				6095					6100					6105	
acc	gac	gtc	ccg	atc	ggc	acc	gcc	ctc	gcc	ggc	cgc	acc	gac	gac	37391
Thr	Asp	Val	Pro	Ile	Gly	Thr	Ala	Leu	Ala	Gly	Arg	Thr	Asp	Asp	
				6110					6115					6120	
gcc	ctc	gac	gag	ctg	gtc	ggc	ttc	ttc	gtc	aac	atg	ctt	gtg	ctg	37436
Ala	Leu	Asp	Glu	Leu	Val	Gly	Phe	Phe	Val	Asn	Met	Leu	Val	Leu	
				6125					6130					6135	
cgc	acc	gac	gtg	ttc	ggc	gac	ccc	ggg	ttc	ggc	acg	ctg	ctg	cgc	37481
Arg	Thr	Asp	Val	Ser	Gly	Asp	Pro	Gly	Phe	Gly	Thr	Leu	Leu	Arg	
				6140					6145					6150	
cgg	gtg	cgc	gag	acc	ggc	ctc	gcc	gcg	tac	gcc	cat	cag	gac	gtt	37526
Arg	Val	Arg	Glu	Thr	Gly	Leu	Ala	Ala	Tyr	Ala	His	Gln	Asp	Val	
				6155					6160					6165	
ccc	ttc	gac	cag	gtc	gtc	gag	gag	ctg	gtg	acc	gag	cgt	ttc	ctg	37571
Pro	Phe	Asp	Gln	Val	Val	Glu	Glu	Leu	Val	Thr	Glu	Arg	Ser	Leu	
				6170					6175					6180	
gcc	cgg	cat	ccg	ctg	ttc	cag	gtg	ggc	ctg	acc	gtg	cag	aac	gcg	37616
Ala	Arg	His	Pro	Leu	Phe	Gln	Val	Ala	Leu	Thr	Val	Gln	Asn	Ala	
				6185					6190					6195	
ccg	ggc	gcg	cgg	ccg	cgg	ctg	gcc	ggc	ctc	gaa	gtc	ggc	acc	gag	37661
Pro	Gly	Ala	Arg	Pro	Arg	Leu	Ala	Gly	Leu	Glu	Val	Gly	Thr	Glu	
				6200					6205					6210	
ccg	atc	gag	cac	ggc	atc	gcc	cgc	tac	gac	ctc	acg	ctc	acc	gtg	37706
Pro	Ile	Glu	His	Gly	Ile	Ala	Arg	Tyr	Asp	Leu	Thr	Leu	Thr	Val	
				6215					6220					6225	
acc	gag	cgg	cgc	gac	gag	cac	ggc	gcg	ccg	gac	ggc	ctg	gag	ggg	37751
Thr	Glu	Arg	Arg	Asp	Glu	His	Gly	Ala	Pro	Asp	Gly	Leu	Glu	Gly	
				6230					6235					6240	
cat	ctc	gag	ttc	agc	cgc	gac	ctg	ttc	gac	gcg	ccg	acc	gtc	gcg	37796
His	Leu	Glu	Phe	Ser	Arg	Asp	Leu	Phe	Asp	Ala	Pro	Thr	Val	Ala	
				6245					6250					6255	
acc	ctc	ggc	gac	cgg	ctg	atc	cgg	ctc	ctc	acc	gcc	gcg	gtg	gcc	37841
Thr	Leu	Gly	Asp	Arg	Leu	Ile	Arg	Leu	Leu	Thr	Ala	Ala	Val	Ala	
				6260					6265					6270	
gac	ccg	gag	ctg	ccg	ctg	agc	cgg	atc	gat	ctg	atg	gcc	ccc	gcg	37886
Asp	Pro	Glu	Leu	Pro	Leu	Ser	Arg	Ile	Asp	Leu	Met	Ala	Pro	Ala	
				6275					6280					6285	

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gag	cgc	cgc	aac	gtg	ctc	gag	ggc	tgg	agc	acc	gcc	cgg	cgc	gac	37931
Glu	Arg	Arg	Asn	Val	Leu	Glu	Gly	Trp	Ser	Thr	Ala	Arg	Arg	Asp	
				6290					6295					6300	
gtg	ccg	gcg	gcc	acc	gtg	ccg	gag	ctg	gtg	gcc	gcg	cag	gtg	gcc	37976
Val	Pro	Ala	Ala	Thr	Val	Pro	Glu	Leu	Val	Ala	Ala	Gln	Val	Ala	
				6305					6310					6315	
cgg	cgc	ccg	ggt	gcg	gtc	gcg	ctg	cgg	tgc	gag	gac	ggc	gag	atc	38021
Arg	Arg	Pro	Gly	Ala	Val	Ala	Leu	Arg	Ser	Glu	Asp	Gly	Glu	Ile	
				6320					6325					6330	
acg	tac	gcc	gag	ctg	gac	gcg	cgc	gcc	ggg	cgg	ctg	gcc	gcg	gtg	38066
Thr	Tyr	Ala	Glu	Leu	Asp	Ala	Arg	Ala	Gly	Arg	Leu	Ala	Ala	Val	
				6335					6340					6345	
ctg	cgc	cgc	cgc	ggg	atc	ggg	ccg	gag	tgc	cgg	gtg	gcc	gtg	ctg	38111
Leu	Arg	Arg	Arg	Gly	Ile	Gly	Pro	Glu	Ser	Arg	Val	Ala	Val	Leu	
				6350					6355					6360	
ttg	ccg	cgc	ggc	gtc	gag	cag	gtg	gtc	gcc	ttc	ctc	gcc	gtg	gtg	38156
Leu	Pro	Arg	Gly	Val	Glu	Gln	Val	Val	Ala	Phe	Leu	Ala	Val	Val	
				6365					6370					6375	
cgg	gcc	ggc	ggc	acc	tat	ctg	ccg	atc	gat	ccc	gcg	tac	ccg	cgc	38201
Arg	Ala	Gly	Gly	Thr	Tyr	Leu	Pro	Ile	Asp	Pro	Ala	Tyr	Pro	Arg	
				6380					6385					6390	
gac	cgc	gtc	gac	tac	ctc	gtc	cgg	gac	gcg	gag	ccg	gcg	tgc	ctg	38246
Asp	Arg	Val	Asp	Tyr	Leu	Val	Arg	Asp	Ala	Glu	Pro	Ala	Cys	Leu	
				6395					6400					6405	
ctg	acc	gtc	gcc	ggg	cat	cgc	gcg	gcg	gcg	ccg	gcg	gca	ccg	gcg	38291
Leu	Thr	Val	Ala	Gly	His	Arg	Ala	Ala	Ala	Pro	Ala	Ala	Pro	Ala	
				6410					6415					6420	
gtg	gtc	gag	ctg	gac	gac	ccg	gcg	acc	gcg	gcc	gag	atc	gcc	gat	38336
Val	Val	Glu	Leu	Asp	Asp	Pro	Ala	Thr	Ala	Ala	Glu	Ile	Ala	Asp	
				6425					6430					6435	
gcc	gaa	ccg	gag	ccg	ccg	gtc	gcg	gtg	cgg	ccc	acc	cac	tcc	gcc	38381
Ala	Glu	Pro	Glu	Pro	Pro	Val	Ala	Val	Arg	Pro	Thr	His	Ser	Ala	
				6440					6445					6450	
tac	ctg	atc	tac	acc	tgc	ggc	tgc	acc	ggg	cgg	ccc	aag	ggc	gtc	38426
Tyr	Leu	Ile	Tyr	Thr	Ser	Gly	Ser	Thr	Gly	Arg	Pro	Lys	Gly	Val	
				6455					6460					6465	
gtg	gtc	acc	cac	cgg	ggt	gtg	gcc	gcg	ctc	gtg	gcc	acc	cag	gcc	38471
Val	Val	Thr	His	Arg	Gly	Val	Ala	Ala	Leu	Val	Ala	Thr	Gln	Ala	
				6470					6475					6480	
gag	cgg	ctc	gcg	gtg	acc	ggc	gag	agc	cgc	gtc	ctg	cag	ttc	gcc	38516
Glu	Arg	Leu	Ala	Val	Thr	Gly	Glu	Ser	Arg	Val	Leu	Gln	Phe	Ala	
				6485					6490					6495	
agc	gtg	ggc	ttc	gac	gcc	tgc	atc	tgg	gag	atg	gtg	atg	gcc	ctg	38561
Ser	Val	Gly	Phe	Asp	Ala	Ser	Ile	Trp	Glu	Met	Val	Met	Ala	Leu	
				6500					6505					6510	
tgc	gcc	ggc	gcc	acc	ctg	gtc	gtc	gcc	ccg	gcc	gac	gac	ctg	ctg	38606
Cys	Ala	Gly	Ala	Thr	Leu	Val	Val	Ala	Pro	Ala	Asp	Asp	Leu	Leu	
				6515					6520					6525	

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ccc ggc ccg gcc ctg	gcc gcc acg ctg tcc	ggg cac gcg gtg acc	38651
Pro Gly Pro Ala Leu	Ala Ala Thr Leu Ser	Gly His Ala Val Thr	
6530	6535	6540	
cac gcg acc ctg ccg	ccg gcc gtg ctc gcc	gcg tcc gcg ccc ggc	38696
His Ala Thr Leu Pro	Pro Ala Val Leu Ala	Ala Ser Ala Pro Gly	
6545	6550	6555	
gat ctc gcg ccg ctc	gcc gtg ctg gtc tgc	gcc ggt gag gcg ctc	38741
Asp Leu Ala Pro Leu	Ala Val Leu Val Ser	Ala Gly Glu Ala Leu	
6560	6565	6570	
ggg ccg gac ctc gtc	ccg cag ttc gcg ccc	ggc cgc gcg ctg gtg	38786
Gly Pro Asp Leu Val	Arg Gln Phe Ala Pro	Gly Arg Ala Leu Val	
6575	6580	6585	
aac gcg tac ggg ccg	acc gag acc acg gtg	tgc gcc acg gcg tcc	38831
Asn Ala Tyr Gly Pro	Thr Glu Thr Thr Val	Cys Ala Thr Ala Ser	
6590	6595	6600	
gcc ccg ctc ggc ccg	gag gat ccc ccg cac	atc ggc gcc ccg gtc	38876
Ala Pro Leu Gly Pro	Glu Asp Pro Pro His	Ile Gly Ala Pro Val	
6605	6610	6615	
gcc gat tcc ccg gtc	tac gtg ctc gac gac	gcg ctc acc ccg gtg	38921
Ala Asp Ser Arg Val	Tyr Val Leu Asp Asp	Ala Leu Thr Pro Val	
6620	6625	6630	
ccg ccc ggg gtc acc	ggc gag ctg tac gtc	tgc ggg gcg tgc ctg	38966
Pro Pro Gly Val Thr	Gly Glu Leu Tyr Val	Ser Gly Ala Ser Leu	
6635	6640	6645	
gcc cgc gga tat gcc	ggt cgc gcg gcc ctc	acc gcg gaa cgc ttc	39011
Ala Arg Gly Tyr Ala	Gly Arg Ala Ala Leu	Thr Ala Glu Arg Phe	
6650	6655	6660	
gtg gcc tgc ccg ttc	gcg ccg ggt gag ccg	atg tac ccg acc ggg	39056
Val Ala Cys Pro Phe	Ala Pro Gly Glu Arg	Met Tyr Arg Thr Gly	
6665	6670	6675	
gac ccg gcc cgc tgg	gac gcg gcc ggc ccg	ctc acg ttc gcc ggg	39101
Asp Arg Ala Arg Trp	Asp Ala Ala Gly Arg	Leu Thr Phe Ala Gly	
6680	6685	6690	
cgc gcc gac gac cag	gtc aag atc cgc ggg	ttc ccg gtg gaa ccg	39146
Arg Ala Asp Asp Gln	Val Lys Ile Arg Gly	Phe Arg Val Glu Pro	
6695	6700	6705	
ggt gag gtg gcc gcg	gtg ctc ggc gaa cac	ccg gcg gtc gcc ccg	39191
Gly Glu Val Ala Ala	Val Leu Gly Glu His	Pro Ala Val Ala Arg	
6710	6715	6720	
gcg gcg gtc gtg gcg	cgc acg gac ggg ccg	cag ggc gcg ccg ctg	39236
Ala Ala Val Val Ala	Arg Thr Asp Gly Pro	Gln Gly Ala Arg Leu	
6725	6730	6735	
gtg gcg tac ctc gtc	gcc gcc gac ccg gcc	ggg ccc gac ctg gcc	39281
Val Ala Tyr Leu Val	Ala Ala Asp Pro Ala	Gly Pro Asp Leu Ala	
6740	6745	6750	
gct gcg gtg cgc gcg	tac gcc gcc gcg acc	ctg ccc gcg cac ctg	39326
Ala Ala Val Arg Ala	Tyr Ala Ala Ala Thr	Leu Pro Ala His Leu	
6755	6760	6765	

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ctt ccg gcc gcg ttc	gtg ccg ctc gac cgc	ctg ccc ctg acc acg	39371
Leu Pro Ala Ala Phe	Val Pro Leu Asp Arg	Leu Pro Leu Thr Thr	
6770	6775	6780	
aac ggc aag ctg gac	cgg gcc gcg ctg ccc	gaa ccg gag acc ggc	39416
Asn Gly Lys Leu Asp	Arg Ala Ala Leu Pro	Glu Pro Glu Thr Gly	
6785	6790	6795	
gcc ggg cgc gag ccg	tcc ggc ccc gtc gaa	cgg ctg ctc tgc gag	39461
Ala Gly Arg Glu Pro	Ser Gly Pro Val Glu	Arg Leu Leu Cys Glu	
6800	6805	6810	
gcg ttc gcc gac gtg	ctc ggc ctc gac cgg	gtc ggc gcc gac ggc	39506
Ala Phe Ala Asp Val	Leu Gly Leu Asp Arg	Val Gly Ala Asp Gly	
6815	6820	6825	
cac ttc ttc gac ctg	ggc ggc cat tgc ctg	ctc gcc acc cgg ctg	39551
His Phe Phe Asp Leu	Gly Gly His Ser Leu	Leu Ala Thr Arg Leu	
6830	6835	6840	
ctc agc cgg ctc cgc	tgc gcc gcg ggc atc	gac gtc ccg gtc cgg	39596
Leu Ser Arg Leu Arg	Ser Ala Ala Gly Ile	Asp Val Pro Val Arg	
6845	6850	6855	
gtg ctt ttc gag aac	ccc act ccc gcc ggg	ctc gcc gcc tgg gtg	39641
Val Leu Phe Glu Asn	Pro Thr Pro Ala Gly	Leu Ala Ala Trp Val	
6860	6865	6870	
gag acc cac gcc gga	tcc cgc cgg aag tcc	cgg ccg gcg ctg cgg	39686
Glu Thr His Ala Gly	Ser Arg Arg Lys Ser	Arg Pro Ala Leu Arg	
6875	6880	6885	
ccg atg cgt cac cag	aag gag tcc tga	tgateccccct gtcgttcgcg	39733
Pro Met Arg His Gln	Lys Glu Ser		
6890			
cagcgcgcgc tgtggttcc	cggcgcgcgc gagggggcc	ccgccaccta caacatccc	39793
ctcgtgctgg gctgaccgg	cacgtgcgac gccgcgcgc	tcgaaaccgc cctgcgcgac	39853
gtgctggagc ggcacgaggt	gctgcgtacc gtctatccg	acgccggcgg cgagccgcac	39913
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gccgtgcggc ccgcgcacca	cggcgacctg accgcctca	cccgcgagct cggcgccacg	40453
ctcttcatgg ccgtgcacgc	ggcgaccgcc atggtgcttt	ccgggctggg cgcgggcgac	40513
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ggctgcttcg	tcaacaacct	ggtgatccgg	gccgacctga	ccggcgaccc	gaccttcgcg	40633
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gtggcggtacg	tcggtgggcgg	cgacgtggag	accctccggt	cgtacgcgca	gcagcgggtg	42553
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gtg acc gtc cgg cga tgg 70676

Val Thr Val Arg Arg Trp

1

5

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 Lys Leu Pro Cys Gln Ala Ala Gly Trp Pro Asp Asp Thr Ala Thr Leu
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 Phe Gly Arg Tyr Cys Tyr Ser Asp Val Pro Ile Leu Phe Arg Glu Arg
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ggc ctt ttc gac gcc att ttc ccg tac gag tcc ggg ccg ggc gcc cag 70868
 Gly Leu Phe Asp Gly Ile Phe Pro Tyr Glu Ser Gly Pro Gly Ala Gln
 55 60 65 70

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Arg	Leu	Val	Arg	Ala	Ile	Leu	Pro	Gly	Ala	Asp	Val	Ala	Val	Ala	Ser	
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cgg	gcg	tac	ttc	ctc	acg	acg	gtc	ctg	gtg	ctg	ctc	gcc	ctc	gcg	gtc	71012
Arg	Ala	Tyr	Phe	Leu	Thr	Thr	Val	Leu	Val	Leu	Leu	Ala	Leu	Ala	Val	
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ctg	acc	gtg	tgg	gcg	acc	ggg	gcg	gtg	ctg	cgc	cgc	acc	ggc	ggg	cgg	71060
Leu	Thr	Val	Trp	Ala	Thr	Gly	Ala	Val	Leu	Arg	Arg	Thr	Gly	Gly	Arg	
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ccg	ggc	gac	gcg	ctg	ctg	gtc	gcc	gcc	gca	ccg	gtg	ctg	atc	ctg	gcc	71108
Pro	Gly	Asp	Ala	Leu	Leu	Val	Ala	Ala	Ala	Pro	Val	Leu	Ile	Leu	Ala	
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Ile	Leu	Ala	Trp	Glu	Arg	Asp	Arg	Pro	Leu	Leu	Ala	Gly	Val	Leu	Ile	
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Pro	Asp	Leu	Ala	Gln	Leu	Ala	Cys	Leu	Ala	Val	Gly	Ala	Phe	Leu	Leu	
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Thr	Asn	Lys	Val	Tyr	Ser	Pro	Gln	Tyr	Ala	Leu	Trp	Leu	Leu	Pro	Leu	
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tgg	gcc	gtc	tgg	cag	gcc	gcc	gag	gtg	ctc	tac	tgg	ctc	gcg	gtg	tgg	71732
Trp	Ala	Val	Trp	Gln	Ala	Ala	Glu	Val	Leu	Tyr	Trp	Leu	Ala	Val	Trp	
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Ser	Trp	Leu	Ala	Gly	Ser	Leu	Thr	Asp	Glu	Arg	Gln	Tyr	Ala	Trp	Ala	
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Thr	Val	Leu	Arg	Val	Leu	Ala	Thr	Ala	Tyr	Val	Cys	Gly	Gln	Val	Val	
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Trp	Asp	Val	Leu	Ala	Ala	Pro	Arg	Pro	His	Arg	Pro	Ala	Pro	Pro	Pro	
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Tyr	Val	Ser	Thr	Lys	Val	Phe	Glu	Ala	Pro	Ala	Val	Phe	Leu	Pro	Ala	
			335					340					345			

APPENDIX A

gac Asp	cct Pro	cgc Arg	gcg Ala	ctg Leu	gag Glu	gac Asp	gcc Ala	gcg Ala	tgc Ser	ccg Pro	gcc Ala	ctg Leu	cgc Arg	ccg Pro	gcc Ala	7886
		350					355					360				
gac Asp	ccc Pro	gcc Ala	gcg Ala	gcc Ala	cgg Arg	gag Glu	ata Ile	ccg Pro	ggg Gly	gtc Val	ggc Gly	cgg Arg	gtg Val	ccc Pro	gac Asp	7934
	365					370					375					
ttc Phe	gag Glu	gtg Val	ctc Leu	atc Ile	gtc Val	gac Asp	ccg Pro	gac Asp	ggg Gly	cta Leu	cgg Arg	ccg Pro	ctg Leu	ccc Pro	gag Glu	7982
380					385					390					395	
ggc Gly	cgg Arg	gtc Val	ggc Gly	gag Glu	atc Ile	tgg Trp	ctg Leu	cgc Arg	ggg Gly	ccc Pro	ggc Gly	gcg Ala	ggc Gly	gcc Ala	ggc Gly	8030
				400					405					410		
tac Tyr	tgg Trp	ggc Gly	agg Arg	acc Thr	gag Glu	ctc Leu	aac Asn	ccc Pro	ggc Gly	atc Ile	ttc Phe	gac Asp	gcc Ala	agg Arg	ccc Pro	8078
			415					420					425			
gcg Ala	ggc Gly	gac Asp	ggc Gly	cag Gln	gac Asp	ggc Gly	ggc Gly	tgg Trp	gtg Val	cga Arg	acg Thr	ggg Gly	gac Asp	ctg Leu	ggg Gly	8126
		430				435						440				
gcg Ala	ctg Leu	acc Thr	gga Gly	ggc Gly	gag Glu	ctg Leu	ttc Phe	ctc Leu	acc Thr	gga Gly	cgc Arg	ctc Leu	aag Lys	gag Glu	ctg Leu	8174
	445					450					455					
ctc Leu	atc Ile	gtg Val	cac His	ggc Gly	cgc Arg	aac Asn	ctg Leu	gcc Ala	ccg Pro	cac His	gac Asp	ctc Leu	gag Glu	cgg Arg	gag Glu	8222
460					465					470					475	
gcc Ala	cgg Arg	gcc Ala	gcg Ala	cac His	gac Asp	gcg Ala	gtg Val	gac Asp	cac His	cag Gln	atc Ile	ggg Gly	gcg Ala	gcg Ala	ttc Phe	8270
				480					485				490			
ggg Gly	gtg Val	ccg Pro	gcg Ala	ccc Pro	gac Asp	gag Glu	cgg Arg	atc Ile	gtg Val	ctg Leu	gtg Val	cag Gln	gag Glu	gtg Val	cat His	8318
			495				500					505				
ccg Pro	cgc Arg	acg Thr	ccg Pro	ctc Leu	gac Asp	gag Glu	ctg Leu	ccg Pro	cgg Arg	gtg Val	gcg Ala	agc Ser	gcc Ala	gtc Val	agc Ser	8366
		510					515					520				
cgc Arg	cgg Arg	ctc Leu	acc Thr	gtc Val	tcc Ser	ttc Phe	ggc Gly	gtg Val	ccg Pro	gta Val	cgc Arg	aac Asn	gtg Val	ctg Leu	ctg Leu	8414
	525					530					535					
gtg Val	cgg Arg	cgc Arg	ggc Gly	acg Thr	gtg Val	cgc Arg	cgg Arg	acc Thr	acg Thr	agc Ser	ggc Gly	aag Lys	atc Ile	cgc Arg	cgg Arg	8462
540					545					550					555	
acc Thr	gcg Ala	gtc Val	cgc Arg	gag Glu	cgg Arg	ttc Phe	ctg Leu	gcc Ala	ggc Gly	ggc Gly	atc Ile	acg Thr	gcg Ala	ctg Leu	cac His	8510
				560					565					570		
gcc Ala	gag Glu	ctc Leu	gag Glu	ccg Pro	gcg Ala	ctg Leu	cgg Arg	ccg Pro	gtg Val	cag Gln	gcg Ala	ggc Gly	gcg Ala	ggc Gly	cga Arg	8558
			575					580				585				
tga																8561
ccgtacgcc	gctggcgcca	ccgcggagg	tgcgcctgga	cgacctgctc	ggccccgagg											8621

APPENDIX A

acgcatggga cgccgagacg gccgcccgcg acatcgccga ggagttcccg gcccggtgc 8681
acgaccgggt gaactccttc ggtctgcaat cctggtacgt accgccggag tggggcggtg 8741
ccccggcgga ccacgagcgg ctctgcacc tgtggcgtgc ggtcgcccg cgcgacctga 8801
gcgcggccgt cgcgcacggc aagacctacc tcgggtcggc gccggtctgg ctggccggtg 8861
acgacggcca gcgcgcgacg cttgccgcgc cgggtgctgc cggcaccccg gtcgcatggg 8921
cgctctccga gcccgaccac ggcgccgacc tgctgcacgg caccaccacg gccctgcccc 8981
acgacgccgg ctaccggctg cgcggtctca agtggccgat caacaacgcg acccgggccc 9041
gatacctcac cgtgctggcc cgcaccggcc gggccggcga cgcccgcggg cagagcctgt 9101
tcttggtcga caaggaggcg ctgcccccg gcacgtggct gcccggccc aagggtggcca 9161
cgcacgggggt ggggggcacg gacatctccg gcacgcgtt cgaggacgcc ggctgcccg 9221
gcacggccct gctcgggcgg gccggaagcg ggctggagac ggtgctgcgc tcgctgcagc 9281
tgaccgcac catgtgcgc gggctgtgc tgggcgcgg cgaccgcgc ctgcggtga 9341
ccgcccgctt cgtggcccag cggatgatca tgcggcgcc gctgctgcac cggggccacc 9401
cggcgggat tctggcggc tgcgcgcgc tgctgcgc gcccgaggcg accgccgtcg 9461
tcggcacgcg ctcggtgcac agcctcacgg ccgagatgag cgtgacgtcg gcgacgtca 9521
aggcgtagct gcccacggtg gtggaccgcg tgctgcgtga gctggccgaa ctgctcggt 9581
cgcggtcctt cctgcgtgac gagtacgagc acggcatgtt cccaagctg gtgcgcgacc 9641
accacgtggt cgcggtgttc gacggcagca ccccggtcgt ccgcacggcg ctggcgcacc 9701
agttcccgcg gctcgcgcc ggcttcgcgg ccggcgccgt ctccgcgcg gggctggccg 9761
aggcgagcgc ggccgggtcag ccgccaccgc cgtggaccg cggcgccctg accctgctct 9821
ccgccacgg gtgctcggtg gtgcaggcgc tgccggcgct cgcggtgtcg gccgcgtcc 9881
ggggtggccc ggcggggctg gcccggcacg cggccgcgt gcccggcgag gcgcggcgga 9941
tctgcgggca gatgaccgag ctcgggccct cgccccggcc gtccatggtg ggccacgagc 10001
tgccgcgcgc ctacgagtgg tgctacgcgg gcgcggcgt cctgctgctg tggacctcgg 10061
cggagggccg gcacaccgcg gaccgcctct gggcggaagg cctgtgggtg ctggcgcgc 10121
tgctgcccgt gcgcggggag ctggcccggg tgctgcgggc gccggcgccc gatcccgccc 10181
cgcacgacga cggcgccgac cggctgctgg ccgcgcgggt cgcggcgccc gcacgcaccg 10241
gtgaaccggt gaccccgctt ggcacggccc tgcggcgccc cgcgggcacc gtcggggcgg 10301
aggacggccg

gtg acc 10317
Val Thr
1

gcc gcg gcg ctc gag aag ctg ctc ggc gac gcc cgc gac ccc ggc aac 10365

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Ala	Ala	Ala	Leu	Glu	Lys	Leu	Leu	Gly	Asp	Ala	Arg	Asp	Pro	Gly	Asn	
	5						10					15				
cgc	gtc	ggc	tat	gcg	gcc	gtg	ctc	gcc	gcc	gac	gag	cgg	cag	gag	atg	10413
Pro	Val	Gly	Tyr	Ala	Ala	Val	Leu	Ala	Ala	Asp	Glu	Arg	Gln	Glu	Met	
	20					25				30						
ctg	gcc	gag	ggc	gag	cgg	ctg	ctc	gac	cgc	tat	cag	ctc	aac	gcc	gag	10461
Leu	Ala	Glu	Gly	Glu	Arg	Leu	Leu	Asp	Arg	Tyr	Gln	Leu	Asn	Ala	Glu	
	35				40					45					50	
ttc	gtg	cgc	gtg	gcg	tac	ggc	ggc	cgg	ctg	gcc	cgc	gcc	gac	cgg	ctg	10509
Phe	Val	Pro	Val	Ala	Tyr	Gly	Gly	Arg	Leu	Ala	Arg	Ala	Asp	Arg	Leu	
				55					60					65		
gcc	gag	gtg	ctg	cgc	gcg	gtc	tgg	cgg	cgc	gac	cgc	tgc	ctg	ggg	ctg	10557
Ala	Glu	Val	Leu	Arg	Ala	Val	Trp	Arg	Arg	Asp	Pro	Cys	Leu	Gly	Leu	
			70					75					80			
ggc	tac	ggc	ttc	agc	tcg	ctc	atc	gcc	tcg	gtg	aac	gtg	tgg	tgc	gcc	10605
Gly	Tyr	Gly	Phe	Ser	Ser	Leu	Ile	Ala	Ser	Val	Asn	Val	Trp	Cys	Ala	
		85					90					95				
ggc	aac	gag	gag	caa	cgg	cgc	cgg	gcg	gcc	ggc	ctg	ctg	ctg	gcc	aac	10653
Gly	Asn	Glu	Glu	Gln	Arg	Arg	Arg	Ala	Ala	Gly	Leu	Leu	Leu	Ala	Asn	
	100					105					110					
aag	cgc	atc	gcg	gcc	gcg	ttc	cac	gag	ctc	gcg	cac	ggc	acc	gac	ttc	10701
Lys	Arg	Ile	Ala	Ala	Ala	Phe	His	Glu	Leu	Ala	His	Gly	Thr	Asp	Phe	
	115				120					125					130	
tcc	gcc	gcc	gag	tgc	gcg	gcc	cgc	cgc	gcc	ggc	ggc	gga	tgg	gtg	ctg	10749
Ser	Ala	Ala	Glu	Cys	Ala	Ala	Arg	Pro	Ala	Gly	Gly	Gly	Trp	Val	Leu	
				135					140					145		
tcc	ggg	cac	aag	gag	atc	gtg	acg	aac	ctg	cgc	cgg	gcc	gag	gcg	atg	10797
Ser	Gly	His	Lys	Glu	Ile	Val	Thr	Asn	Leu	Arg	Arg	Ala	Glu	Ala	Met	
			150					155					160			
gtg	ctg	ttc	gcc	cgc	acc	ggc	gag	gcg	cgc	ggc	agc	cgg	tcg	cac	agc	10845
Val	Leu	Phe	Ala	Arg	Thr	Gly	Glu	Ala	Arg	Gly	Ser	Arg	Ser	His	Ser	
		165					170					175				
cag	ttc	ctg	ctg	gtg	cgc	gac	gag	ctg	cgc	gcc	gcg	cgg	gcg	gtg	gac	10893
Gln	Phe	Leu	Leu	Val	Arg	Asp	Glu	Leu	Pro	Ala	Ala	Arg	Ala	Val	Asp	
	180					185					190					
cgc	cgc	cgg	tat	cgc	ggc	agc	ggg	atg	cgc	ggc	atc	gac	ctg	ggc	ggg	10941
Arg	Pro	Arg	Tyr	Pro	Gly	Ser	Gly	Met	Arg	Gly	Ile	Asp	Leu	Gly	Gly	
	195				200					205				210		
ctg	gtc	ttc	gac	gac	tgc	cgc	gtg	cgc	tcc	tcc	gcg	ctg	ttg	ggc	gaa	10989
Leu	Val	Phe	Asp	Asp	Cys	Pro	Val	Pro	Ser	Ser	Ala	Leu	Leu	Gly	Glu	
				215					220				225			
cag	gga	cac	ggc	atc	gag	gtg	gcg	ctg	cgc	gcc	tat	cag	gtc	acc	cgg	11037
Gln	Gly	His	Gly	Ile	Glu	Val	Ala	Leu	Arg	Ala	Tyr	Gln	Val	Thr	Arg	
			230					235					240			
atg	gtg	tcg	cgc	gcc	ctg	ctg	gtg	ggc	cgc	ctg	gac	agc	gcg	gtg	cgg	11085
Met	Val	Ser	Pro	Ala	Leu	Leu	Val	Gly	Pro	Leu	Asp	Ser	Ala	Val	Arg	
		245					250					255				
ctg	gcc	acc	gag	atg	gcg	atg	gag	cgc	cgc	ctg	tac	ggg	gcc	gcc	gtc	11133

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Leu 260	Ala	Thr	Glu	Met	Ala	Met 265	Glu	Arg	Arg	Leu	Tyr 270	Gly	Ala	Ala	Val	
gcc 275	gac Ala	ctg Asp	ccg Leu	tac Tyr	gtg Val	cgc Arg	acc Thr	acc Thr	atc Ile	gcg Ala	cgc Arg	gcc Ala	tat Tyr	gct Ala	gcc Ala	11181
ctg Leu	ctc Leu	acc Thr	gtc Val	gac Asp	gtc Val	ttc Phe	tgc Ser	ggc Gly	gtg Val	ggc Gly	ctg Leu	cgg Arg	gcg Ala	ctg Leu	cac His	11229
ctg Leu	ctg Leu	ccg Pro	gag Glu	gcc Ala	acg Thr	gcc Ala	ggg Gly	tac Tyr	gcg Ala	ccc Pro	gcc Ala	gtg Val	aag Lys	tac Tyr	ctg Leu	11277
acc Thr	gcg Ala	cag Gln	atc Ile	gtg Val	ctg Leu	gac Asp	gcg Ala	atc Ile	gac Asp	gat Asp	ctg Leu	cgc Arg	tgc Ser	gtg Val	ctg Leu	11325
ggc Gly	gcg Ala	cag Gln	ggg Gly	tat Tyr	ctg Leu	cgg Arg	cag Gln	ggc Gly	ccg Pro	tac Tyr	gcg Ala	atg Met	ttc Phe	cag Gln	aag Lys	11373
ctg Leu	gtc Val	cgc Arg	gac Asp	gcc Ala	gcg Ala	ccc Pro	gcc Ala	tcc Ser	ttc Phe	gcg Ala	cac His	gtg Val	tcc Ser	cgc Arg	gcg Ala	11421
gcc Ala	tgc Cys	ctg Leu	gtg Val	atg Met	ctg Leu	ctg Leu	ccg Pro	cac His	ctg Leu	ccc Pro	cgg Arg	ctg Leu	gcc Ala	cgc Arg	cgg Arg	11469
tgc Ser	tgg Trp	acg Thr	gcc Ala	gag Glu	gag Glu	ccg Pro	ccg Pro	ccg Pro	gac Asp	aac Asn	gtg Val	ttc Phe	acc Thr	ctc Leu	ggc Gly	11517
ggc Gly	gag Glu	ctg Leu	tcc Ser	ccg Pro	ttg Leu	gac Asp	ttc Phe	tcc Ser	cgg Arg	ctg Leu	gtc Val	agc Ser	ggc Gly	atg Met	cgt Arg	11565
ggc Gly	gac Asp	ccg Pro	ctg Leu	gcc Ala	ggc Gly	gtc Val	ctg Leu	cac His	gac Asp	tgc Ser	tgg Trp	cac His	gac Asp	gag Glu	ggc Gly	11613
ccg Pro	gtc Val	ggc Gly	cgg Arg	ttc Phe	gcc Ala	gag Glu	cgg Arg	ttc Phe	cac His	cgg Arg	gag Glu	ctg Leu	acc Thr	ggc Gly	ctg Leu	11661
cgg Arg	gac Asp	gcc Ala	tgc Cys	cgg Arg	gag Glu	ctg Leu	ggg Gly	ccg Pro	gcc Ala	gac Asp	atc Ile	acg Thr	atc Ile	gac Asp	gcc Ala	11709
aac Asn	ccg Pro	gcc Ala	gcc Ala	ttc Phe	gcg Ala	ctg Leu	gcc Ala	gac Asp	cgg Arg	tac Tyr	acc Thr	gtg Val	ctg Leu	ctg Leu	gcc Ala	11757
gcg Ala	gcc Ala	tgc Cys	gcc Ala	ctc Leu	ggg Gly	gtg Val	tgg Trp	cgc Arg	gcc Ala	ggg Gly	cgg Gly	ctc Arg	cac Leu	cgg His	arg Arg	11805
ccg Pro	gcg Ala	ctg Leu	ctg Leu	gcc Ala	gtc Val	ctg Leu	gac Asp	ggg Gly	ctg Leu	gcc Ala	ggc Gly	cgg Arg	ctc Leu	ggc Gly	ggc Gly	11853
gag Leu	gcc Leu	gtg Leu	ctg Leu	agc Ala	gtg Val	gcc Leu	gag Asp	cgc Gly	gag Leu	cac Ala	gtg Gly	gag Arg	cac Leu	cag Gly	ctc Gly	11901

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Glu	Ala	Val	Leu	Ser	Val	Ala	Glu	Arg	Glu	His	Val	Glu	His	Gln	Leu	
515					520					525					530	
ttc	gag	atg	gcc	gcc	gac	cg	gta	cgc	acc	agc	cg	ctg	ctg	gac	ctg	11949
Phe	Glu	Met	Ala	Ala	Asp	Arg	Val	Arg	Thr	Ser	Arg	Leu	Leu	Asp	Leu	
				535					540					545		
agc	gcc	cgt	cag	ctc	ccc	ggc										
Ser	Ala	Arg	Gln	Leu	Pro	Gly										
				550												
tga	ccgggcgcga															11983
tcaggcagcc	ggcgagcgcg	ggcgcgcccg	aggcccggct	cagatagctg	agcaccagct											12043
cctcgagctc	gacctgctcc	accgtccacg	ggcgccgggg	caggtccacc	tcggcccgcga											12103
ccactccccc	gctgtacgag	ccgaagtcct	ccaccagat	gggctccatc	cccggcggga											12163
ggcggtccag	ctcgccgcgc	ggcgcgatga	tgcggtggtg	ccgggcgagc	aggtcccggga											12223
cgtcgcccgc	gacgagcacc	cgggagtcgg	acagcacgat	caggtggtcg	cagagccgct											12283
ccacctctcc	ggacgggtga	ccggagatca	gcacgctcgc	gtcgatctcg	gcgacgaagt											12343
cgagcacgcc	gcgaggaac	gagggcgggg	ccggcgcatc	cagcaccgcg	ccgggctcgt											12403
cgagcacgag	cagctccggg	cgcttgccgc	cgccaggggt	caacgccagc	tcggcccgcct											12463
ggccggcgga	gagccggctc	gcgcgccggg	tacgcggaat	gccggccgag	gcgatgcgcc											12523
ggtcggccag	ccgcgggtcc	caccgcggat	tgagccgcgc	gcccacgtg	aggtggtctt											12583
ccaccgtgaa	cgagccgtac	accgcgggt	ccgcgggtac	gtatcccacc	cgcgccaggt											12643
gcgccgcgcc	cgcgtccggg	cgctccccc	gaaccggat	ccggccccgg	ctcggcgcga											12703
ccatcccgcga	gcacagctgc	agcagtgtgg	acttgcccga	gcccgcgggt	ccgaccagcg											12763
cgatcacccg	tccggaggga	acggagagcg	tgcagtcgggt	cagggccctc	cgccggccgt											12823
agcgtttcgt	cagggccctcg	gcctgcagaa	cgggagtgga	gcgctcgtga	gacatggcct											12883
tcatcgtcgg	ggagcgcccc	ggggaaccgt	accgccttaa	gaagggttga	tttcgggcgt											12943
caccctactt	ttgacctt	ggcggcgcgc	gattcgcccc	tatccttggg	cggc											
atg	aac	atc	gcg	gcc	gca											13015
Met	Asn	Ile	Ala	Ala	Ala											
1				5												
acc	ggt	ccc	gcc	gcc	ggc	gac	ggc	gcc	ggc	atc	cgt	acc	ctt	gga	tc	13063
Thr	Gly	Pro	Ala	Ala	Gly	Asp	Gly	Ala	Gly	Ile	Arg	Thr	Leu	Gly	Ser	
			10					15					20			
gtg	cgg	acg	gcg	gac	agg	acg	acc	acc	atg	gtg	gcc	gac	gcg	ggg	ctg	13111
Val	Arg	Thr	Ala	Asp	Arg	Thr	Thr	Thr	Met	Val	Ala	Asp	Ala	Gly	Leu	
			25					30				35				
gcc	gtc	ctc	ttc	gtg	gcc	gcc	gtc	gtc	gtc	gag	gcc	gtc	gcc	gtc	gcg	13159
Ala	Val	Leu	Phe	Val	Ala	Ala	Val	Val	Val	Glu	Ala	Val	Ala	Val	Ala	
	40					45					50					
cag	agc	tgg	ggc	ctg	gcc	tac	tgg	ttg	atc	ggc	ggc	gcg	gcc	gcg	acg	13207

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Gln 55	Ser	Trp	Gly	Leu	Ala 60	Tyr	Trp	Leu	Ile	Gly 65	Gly	Ala	Ala	Ala	Thr 70	
ctc	gtc	tgc	ctg	ctc	gcc	ctg	atc	cgg	cgg	cgc	ggc	ccg	gtg	ccg	tgc	13255
Leu	Val	Cys	Leu	Leu 75	Ala	Leu	Ile	Arg	Arg 80	Arg	Gly	Pro	Val	Pro 85	Cys	
gcc	gcg	gcc	ggg	ctc	acg	atc	gcg	gcg	ggc	gcc	gtc	gtc	acg	gcg	gcc	13303
Ala	Ala	Ala	Gly 90	Leu	Thr	Ile	Ala	Ala 95	Gly	Ala	Val	Val	Thr 100	Ala	Ala	
gtg	ctg	cac	atg	ccg	gcc	gag	ccc	ggc	ccg	gcc	atg	gcg	ctg	gcc	ctg	13351
Val	Leu	His 105	Met	Pro	Ala	Glu	Pro 110	Gly	Pro	Ala	Met	Ala	Leu	Ala	Leu	
gcc	gtc	ctc	acc	ggc	tgc	gcg	gtg	cgg	gcc	gca	ccc	acg	atc	ccc	gcc	13399
Ala	Val	Leu	Thr	Gly	Ser	Ala	Val 125	Arg	Ala	Ala	Pro 130	Thr	Ile	Pro	Ala	
ttc	gcc	gtg	ggc	ggc	gcc	gcc	ctc	ggc	gtg	gtc	gcc	ctc	agc	cag	gtg	13447
Phe 135	Ala	Val	Gly	Gly	Ala 140	Ala	Leu	Gly	Val	Val 145	Ala	Leu	Ser	Gln	Val 150	
gcc	gcc	gcg	acc	tgg	gac	gcc	ggc	cgg	gcg	ccg	gtg	acc	tgg	ctg	aac	13495
Ala	Ala	Ala	Thr 155	Trp	Asp	Ala	Gly	Pro	Ala 160	Pro	Val	Thr	Trp	Leu 165	Asn	
atc	ctc	acc	tgg	ctg	ggc	ggc	acg	gcc	acc	ggg	ttg	tgc	ctg	cgg	acg	13543
Ile	Leu	Thr	Trp 170	Leu	Gly	Gly	Thr	Ala 175	Thr	Gly	Leu	Ser	Leu 180	Arg	Thr	
gtg	gac	ggc	cgg	gcc	cgc	gcg	aac	gcc	gag	cgc	atc	cgc	cag	gag	gaa	13591
Val	Asp	Gly 185	Arg	Ala	Arg	Ala	Asn 190	Ala	Glu	Arg	Ile	Arg 195	Gln	Glu	Glu	
cgc	ctc	gaa	ctg	gcc	cgg	gag	ctg	cac	gac	gtg	gtc	gcg	cac	cac	atc	13639
Arg	Leu 200	Glu	Leu	Ala	Arg	Glu 205	Leu	His	Asp	Val	Val 210	Ala	His	His	Ile	
acc	ggc	atg	atc	ctg	cag	acc	cag	gcc	gcc	cag	gtg	ctc	gcg	cgg	cgc	13687
Thr 215	Gly	Met	Ile	Leu	Gln 220	Thr	Gln	Ala	Ala	Gln 225	Val	Leu	Ala	Arg	Arg 230	
gac	gcc	ggg	cgc	gtg	ccc	gag	cgg	ctg	gcg	gtc	atc	gaa	acg	gcc	ggc	13735
Asp	Ala	Gly	Arg	Val 235	Pro	Glu	Arg	Leu	Ala 240	Val	Ile	Glu	Thr	Ala 245	Gly	
acc	gag	gcc	ctc	gcg	gcc	atg	cgc	cgg	gtc	gtg	ggc	ctg	ctg	cgc	gac	13783
Thr	Glu	Ala	Leu 250	Ala	Ala	Met	Arg	Arg 255	Val	Val	Gly	Leu	Leu 260	Arg	Asp	
gcc	gac	gac	ggc	cca	ccg	tgc	gca	ccg	gag	ccc	gag	gag	ctg	agc	acg	13831
Ala	Asp	Asp	Gly	Pro	Pro	Ser	Ala 270	Pro	Glu	Pro	Glu	Glu	Leu	Ser	Thr	
ctt	gtc	gag	cgc	ttc	tcc	cgg	cag	ggc	ggc	ccg	gtg	cgg	ctc	acc	act	13879
Leu 280	Val	Glu	Arg	Phe	Ser	Arg	Gln 285	Gly	Gly	Pro	Val 290	Arg	Leu	Thr	Thr	
ccc	gac	ggc	atg	aag	cag	tgg	ccg	atc	gag	gtg	acc	acc	acg	gtc	tac	13927
Pro 295	Asp	Gly	Met	Lys	Gln 300	Trp	Pro	Ile	Glu	Val 305	Thr	Thr	Thr	Val	Tyr 310	
cgg	atc	gtc	cgc	gag	gcg	ctc	acc	aac	gtc	gcc	cgg	cac	gcg	ccg	cac	13975

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Arg	Ile	Val	Arg	Glu	Ala	Leu	Thr	Asn	Val	Ala	Arg	His	Ala	Pro	His	
				315					320					325		
gca	ccc	aac	gtg	acc	gtg	acc	gtg	acc	gtg	gag	cag	gcc	gac	gag	atc	14023
Ala	Pro	Asn	Val	Thr	Val	Thr	Val	Thr	Val	Glu	Gln	Ala	Asp	Glu	Ile	
			330						335				340			
agg	gtc	gag	gtc	acc	aac	gac	gcg	gcg	gcg	gcc	cca	ccg	cgg	ttg	cac	14071
Arg	Val	Glu	Val	Thr	Asn	Asp	Ala	Ala	Ala	Ala	Pro	Pro	Arg	Leu	His	
		345					350					355				
cac	cgc	ggc	ggg	tac	ggg	ctg	gtc	ggc	atg	cga	gag	cgg	gtg	gag	agc	14119
His	Arg	Gly	Gly	Tyr	Gly	Leu	Val	Gly	Met	Arg	Glu	Arg	Val	Glu	Ser	
	360					365					370					
ctc	ggc	ggc	acg	ctg	agc	acg	ggc	ccc	cgt	ccc	ggc	ggc	ggc	tgg	tgc	14167
Leu	Gly	Gly	Thr	Leu	Ser	Thr	Gly	Pro	Arg	Pro	Gly	Gly	Gly	Trp	Ser	
375					380					385					390	
gtc	gcg	gcc	acc	ctg	ccc	aac	cca	ccg	agg	gag	cga	cga				
Val	Ala	Ala	Thr	Leu	Pro	Asn	Pro	Pro	Arg	Glu	Arg	Arg				
				395					400							
tga	cgatccgtgt															14219
cctgatcgcc	gacgatcagg	cgatgatccg	cagtggcctg	cgctgatcc	tcgaggacga											14279
gcccacatc	gaggtggtgg	ccgaggccgt	cgacggcgtg	gacgcggtcg	cacaggcgcg											14339
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gtg	gct	gct	caa													14994
Val	Ala	Ala	Gln													
1																
ccg	gaa	gag	ttc	gat	gtc	atc	gtg	gtc	ggc	ggc	ggg	ccg	ggc	ggt	ttc	15042
Pro	Glu	Glu	Phe	Asp	Val	Ile	Val	Val	Gly	Gly	Gly	Pro	Gly	Gly	Ser	
5					10					15					20	
acg	gcc	gcg	gcg	ctg	acc	gcc	aag	cag	ggc	gcc	aag	gtg	ctg	ctg	ctg	15090
Thr	Ala	Ala	Ala	Leu	Thr	Ala	Lys	Gln	Gly	Ala	Lys	Val	Leu	Leu	Leu	
				25					30					35		
gag	cgg	gag	aag	ttc	ccg	cgg	tac	cag	atc	ggc	gaa	tcg	ctg	ctg	ccg	15138

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Glu	Arg	Glu	Lys	Phe	Pro	Arg	Tyr	Gln	Ile	Gly	Glu	Ser	Leu	Leu	Pro	
			40					45					50			
tcc	acc	gtg	cac	ggg	gtc	tgc	aac	ctg	ctc	ggg	gtc	ggc	gac	gag	atc	15186
Ser	Thr	Val	His	Gly	Val	Cys	Asn	Leu	Leu	Gly	Val	Gly	Asp	Glu	Ile	
		55					60					65				
gcc	aag	gcc	ggg	ttc	atg	cgc	aag	cac	ggc	ggc	acg	ttc	aag	tgg	ggc	15234
Ala	Lys	Ala	Gly	Phe	Met	Arg	Lys	His	Gly	Gly	Thr	Phe	Lys	Trp	Gly	
	70					75					80					
acc	agt	acc	gag	ccg	tgg	acg	ttc	acc	ttc	gcc	acc	tcg	ccc	cgg	atg	15282
Thr	Ser	Thr	Glu	Pro	Trp	Thr	Phe	Thr	Phe	Ala	Thr	Ser	Pro	Arg	Met	
85					90					95					100	
gcc	ggg	ccg	acc	tcg	cac	gcg	ttc	cag	gtg	gag	cgc	cgc	cgg	ttc	gac	15330
Ala	Gly	Pro	Thr	Ser	His	Ala	Phe	Gln	Val	Glu	Arg	Arg	Arg	Phe	Asp	
				105					110					115		
cag	atc	ctg	ctg	gag	aac	gcg	cgc	cgg	ctg	ggc	gtc	gac	gtc	cgg	gag	15378
Gln	Ile	Leu	Leu	Glu	Asn	Ala	Arg	Arg	Leu	Gly	Val	Asp	Val	Arg	Glu	
			120					125					130			
aac	cac	ccg	gtg	acc	gag	gcg	atc	gcc	gac	gac	gag	cgg	gtc	cgc	ggc	15426
Asn	His	Pro	Val	Thr	Glu	Ala	Ile	Ala	Asp	Asp	Glu	Arg	Val	Arg	Gly	
		135					140					145				
gtc	cgt	ttc	acc	cag	gac	ggg	cag	acc	cgc	acc	gcg	ctg	gcg	cgc	ttc	15474
Val	Arg	Phe	Thr	Gln	Asp	Gly	Gln	Thr	Arg	Thr	Ala	Leu	Ala	Arg	Phe	
	150					155					160					
gtc	gtc	gac	gcc	tcg	ggc	aac	cgc	agc	acc	ctg	cac	acg	acg	gtc	ggc	15522
Val	Val	Asp	Ala	Ser	Gly	Asn	Arg	Ser	Thr	Leu	His	Thr	Thr	Val	Gly	
165					170					175					180	
ggc	acc	cgc	gaa	tac	tcg	ccg	ttc	ttc	cgc	aac	ctc	gcg	ctc	ttc	ggc	15570
Gly	Thr	Arg	Glu	Tyr	Ser	Pro	Phe	Phe	Arg	Asn	Leu	Ala	Leu	Phe	Gly	
			185						190					195		
tac	ttc	gag	aac	ggc	cgg	cgg	ctg	ccc	gcg	ccg	aac	tcc	ggc	aac	atc	15618
Tyr	Phe	Glu	Asn	Gly	Arg	Arg	Leu	Pro	Ala	Pro	Asn	Ser	Gly	Asn	Ile	
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ctc	tgc	gtc	gcc	ttc	ggc	tcc	ggc	tgg	ttc	tgg	tac	atc	ccg	ctc	agc	15666
Leu	Cys	Val	Ala	Phe	Gly	Ser	Gly	Trp	Phe	Trp	Tyr	Ile	Pro	Leu	Ser	
		215					220					225				
gag	acg	ctg	acc	agc	gtc	ggc	gcg	gtg	gtc	cgc	cgg	gag	atg	gca	cac	15714
Glu	Thr	Leu	Thr	Ser	Val	Gly	Ala	Val	Val	Arg	Arg	Glu	Met	Ala	His	
	230					235					240					
aag	gtg	cag	ggc	gac	cag	gag	aag	gcg	ctg	ttc	gag	ctg	atc	gcc	gag	15762
Lys	Val	Gln	Gly	Asp	Gln	Glu	Lys	Ala	Leu	Phe	Glu	Leu	Ile	Ala	Glu	
245					250					255					260	
tgc	ccg	atg	atc	gcc	gac	ttc	ctc	ggg	gac	gcc	acc	cgg	gtc	acc	gag	15810
Cys	Pro	Met	Ile	Ala	Asp	Phe	Leu	Gly	Asp	Ala	Thr	Arg	Val	Thr	Glu	
				265					270					275		
ggc	gac	tac	ggc	cag	atc	cgg	gtc	cgc	aag	gac	tac	tcc	tac	tcc	agc	15858
Gly	Asp	Tyr	Gly	Gln	Ile	Arg	Val	Arg	Lys	Asp	Tyr	Ser	Tyr	Ser	Ser	
			280					285					290			
acc	tcg	tac	tgg	cgg	ccg	ggc	atg	tgc	ctg	gtc	ggc	gac	gcc	gcc	tgc	15906

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Thr	Ser	Tyr	Trp	Arg	Pro	Gly	Met	Cys	Leu	Val	Gly	Asp	Ala	Ala	Cys	
		295					300					305				
ttc	atc	gac	ccg	gtg	ttc	tcc	tcc	ggc	gtg	cac	ctg	gcg	acc	tac	agc	15954
Phe	Ile	Asp	Pro	Val	Phe	Ser	Ser	Gly	Val	His	Leu	Ala	Thr	Tyr	Ser	
	310					315					320					
ggc	ctg	ctc	gcg	gcc	cgc	tcc	atc	aac	agc	gtg	ctg	gcc	ggc	acg	gtg	16002
Gly	Leu	Leu	Ala	Ala	Arg	Ser	Ile	Asn	Ser	Val	Leu	Ala	Gly	Thr	Val	
325					330					335					340	
gac	gag	gac	cgc	gcc	ttc	acc	gag	ttc	gag	cag	cgc	tac	cgg	cgc	gag	16050
Asp	Glu	Asp	Arg	Ala	Phe	Thr	Glu	Phe	Glu	Gln	Arg	Tyr	Arg	Arg	Glu	
				345					350					355		
ttc	ggc	gtc	ttc	cac	gac	ttc	ctg	gtg	agc	ttc	tac	gac	atg	cac	gtc	16098
Phe	Gly	Val	Phe	His	Asp	Phe	Leu	Val	Ser	Phe	Tyr	Asp	Met	His	Val	
			360					365					370			
gat	gag	agc	tcg	tac	ttc	tgg	gcc	gcc	cgc	aag	gtg	acc	gag	agc	agc	16146
Asp	Glu	Ser	Ser	Tyr	Phe	Trp	Ala	Ala	Arg	Lys	Val	Thr	Glu	Ser	Ser	
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gca	ccg	gcc	atg	gag	tcg	ttc	acc	gag	ttg	gtc	ggc	ggc	atc	gcc	tcc	16194
Ala	Pro	Ala	Met	Glu	Ser	Phe	Thr	Glu	Leu	Val	Gly	Gly	Ile	Ala	Ser	
	390					395					400					
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Gly	Glu	Asp	Ala	Leu	Thr	Gly	Ser	Thr	Glu	Leu	Val	Arg	Arg	His	Ser	
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cgg	cag	acc	gcg	gag	ctg	ggc	cag	gcg	gtg	gcc	ggc	ctc	gag	gag	ggc	16290
Arg	Gln	Thr	Ala	Glu	Leu	Gly	Gln	Ala	Val	Ala	Gly	Leu	Glu	Glu	Gly	
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ggc	acc	ggc	ttc	ctg	cgc	ggg	tcg	agc	gtc	gtg	gcg	cag	gcc	atg	ttc	16338
Gly	Thr	Gly	Phe	Leu	Arg	Gly	Ser	Ser	Val	Val	Ala	Gln	Ala	Met	Phe	
			440					445					450			
gaa	ggc	tcg	cag	atc	cag	gcc	ggc	gcg	atc	ctg	ggc	ccg	gag	ggc	acg	16386
Glu	Gly	Ser	Gln	Ile	Gln	Ala	Gly	Ala	Ile	Leu	Gly	Pro	Glu	Gly	Thr	
		455					460					465				
cag	gag	cag	ccg	ctg	ttc	gag	ggc	ggg	ctg	acc	cct	tcc	ggc	aac	ggc	16434
Gln	Glu	Gln	Pro	Leu	Phe	Glu	Gly	Gly	Leu	Thr	Pro	Ser	Gly	Asn	Gly	
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Leu	Thr	Trp	Val	Ala	Ala	Asp										
485					490											
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ccagtggg	cg	agctgccg	cg	agatgacgt	gt	gtcggggt	tc	tcctcggc	cg	cgagcagttc	68748
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atg ggc aac gcc gat cag ccg aga tac ctg cgc	73251
Met Gly Asn Ala Asp Gln Pro Arg Tyr Leu Arg	
1 5 10	
tcc aac gtc atc gcc gaa ccg ctc gtc gac cgt ttc tac gcg tgg ctg	73299
Ser Asn Val Ile Ala Glu Pro Leu Val Asp Arg Phe Tyr Ala Trp Leu	
15 20 25	
cac acg gtg gca ccg gtg ccg gcc tcc atg aac ctg gcg ttc ctg cag	73347
His Thr Val Ala Pro Val Pro Ala Ser Met Asn Leu Ala Phe Leu Gln	
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Val Pro Leu Leu Glu Ser Tyr Leu Gln Ser Pro Pro Val His Val Ala	
45 50 55	
gcg agc acg aac ccg aag atg cgc gcc gcc tac ttc gtc gcc gtc gag	73443
Ala Ser Thr Asn Pro Lys Met Arg Gly Gly Tyr Phe Val Ala Val Glu	
60 65 70 75	
gaa tcc cgc agc gac gag gtc gcc gag ctg ctc aag acg atc aag aac	73491
Glu Ser Arg Ser Asp Glu Val Ala Glu Leu Leu Lys Thr Ile Lys Asn	
80 85 90	
gag cgg gcc gac atg ctc gcc ttc gcc gcc gcg gtg gcc gag gcc gag	73539
Glu Arg Ala Asp Met Leu Gly Phe Ala Ala Ala Val Ala Glu Ala Glu	
95 100 105	
gac ctg atc cgc gag aac gcg gtc gcc tac gac ctg acg ccg ctc tac	73587
Asp Leu Ile Arg Glu Asn Ala Val Gly Tyr Asp Leu Thr Pro Leu Tyr	
110 115 120	
ccc cgg ctg ccg gcc gcg ctc aac ggg ctg gtg gag atc gcg tac gac	73635
Pro Arg Leu Pro Ala Ala Leu Asn Gly Leu Val Glu Ile Ala Tyr Asp	
125 130 135	
acc agc aac cag ccc tcg ctg cac ttc ctc gag ccg ctg ctc tac cgc	73683
Thr Ser Asn Gln Pro Ser Leu His Phe Leu Glu Pro Leu Leu Tyr Arg	
140 145 150 155	

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agc	ccg	gcc	tac	gac	gag	cgg	cgg	cag	tcg	gtg	cag	ctc	tcg	ctc	gac	73731
Ser	Pro	Ala	Tyr	Asp	Glu	Arg	Arg	Gln	Ser	Val	Gln	Leu	Ser	Leu	Asp	
				160					165						170	
gac	ggg	gtg	gag	cgc	ccg	ttc	atc	ctc	agc	aca	ccg	cgg	ctt	ccc	cgg	73779
Asp	Gly	Val	Glu	Arg	Pro	Phe	Ile	Leu	Ser	Thr	Pro	Arg	Leu	Pro	Arg	
			175					180					185			
gct	ggc	gtg	ctc	gac	ctt	ccg	ctg	ccc	ctg	cgg	cat	ccc	ggg	ctg	acc	73827
Ala	Gly	Val	Leu	Asp	Leu	Pro	Leu	Pro	Leu	Arg	His	Pro	Gly	Leu	Thr	
		190					195					200				
gag	ctc	ttc	gac	gcc	cgc	gtg	cgg	ccc	acc	tcg	ctc	aac	cgc	ctg	cgc	73875
Glu	Leu	Phe	Asp	Ala	Arg	Val	Arg	Pro	Thr	Ser	Leu	Asn	Arg	Leu	Arg	
	205					210					215					
gag	gcg	ctg	gag	ctc	gac	gac	gcc	ggc	gcg	gcc	gcg	ctg	gat	gcc	ctg	73923
Glu	Ala	Leu	Glu	Leu	Asp	Asp	Ala	Gly	Ala	Ala	Ala	Leu	Asp	Ala	Leu	
220					225				230						235	
ctc	acc	gac	gag	ccg	agc	ctg	tcg	ccc	gac	cgg	cac	atc	gag	tcc	ggc	73971
Leu	Thr	Asp	Glu	Pro	Ser	Leu	Ser	Pro	Asp	Arg	His	Ile	Glu	Ser	Gly	
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ggc	cgg	gtc	cgc	tac	tac	ggt	cac	gcc	tgc	gtg	gtg	atg	cag	acc	gag	74019
Gly	Arg	Val	Arg	Tyr	Tyr	Gly	His	Ala	Cys	Val	Val	Met	Gln	Thr	Glu	
			255					260					265			
cag	gcg	gcg	gtg	gtc	acc	gac	ccg	ttc	atc	agc	acc	gac	aac	cgc	cac	74067
Gln	Ala	Ala	Val	Val	Thr	Asp	Pro	Phe	Ile	Ser	Thr	Asp	Asn	Arg	His	
		270					275					280				
ggc	gac	cgg	tac	acg	ctc	gac	gac	ctg	ccc	gac	cac	atc	gac	ctg	gtg	74115
Gly	Asp	Arg	Tyr	Thr	Leu	Asp	Asp	Leu	Pro	Asp	His	Ile	Asp	Leu	Val	
	285					290				295						
ctc	atc	acg	cac	ggg	cac	cag	gac	cac	atc	gtg	ctc	gag	acc	ctg	ctg	74163
Leu	Ile	Thr	His	Gly	His	Gln	Asp	His	Ile	Val	Leu	Glu	Thr	Leu	Leu	
300					305					310					315	
cag	ctg	cgc	ggc	cgg	atc	ggc	acc	gtt	gtc	gtg	ccg	cgc	acc	agc	cgc	74211
Gln	Leu	Arg	Gly	Arg	Ile	Gly	Thr	Val	Val	Val	Pro	Arg	Thr	Ser	Arg	
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Gly	Asn	Leu	Pro	Asp	Pro	Ser	Ile	Ala	Leu	Tyr	Leu	Arg	Arg	Ile	Gly	
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Phe	Thr	Val	Val	Glu	Val	Glu	Glu	Phe	Asp	Glu	Val	Pro	Phe	Pro	Gly	
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Gly	Thr	Val	Thr	Ala	Thr	Pro	Phe	Leu	Gly	Glu	His	Ala	Asp	Leu	Asp	
	365					370					375					
atc	cgc	ggg	aag	tcg	acg	tac	ttc	gtg	cgg	atg	gcc	ggg	cgc	acc	atc	74403
Ile	Arg	Gly	Lys	Ser	Thr	Tyr	Phe	Val	Arg	Met	Ala	Gly	Arg	Thr	Ile	
380					385				390						395	
ttc	atc	ggc	gcc	gac	tcg	tcg	ggc	atc	gac	ccg	gtg	ctc	tac	cgc	tac	74451
Phe	Ile	Gly	Ala	Asp	Ser	Ser	Gly	Ile	Asp	Pro	Val	Leu	Tyr	Arg	Tyr	
				400					405					410		

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atc cgc gac cac gtc ggc cag gtc gac atg gcg ttc ctc ggc atg gag Ile Arg Asp His Val Gly Gln Val Asp Met Ala Phe Leu Gly Met Glu 415 420 425	74499
tgc gac ggc gcg ccg ctc aac tgg ctc tac aag gga ctg ctg acc aag Cys Asp Gly Ala Pro Leu Asn Trp Leu Tyr Lys Gly Leu Leu Thr Lys 430 435 440	74547
ccg gtc aac aag aag atg agc gcc tca cgg cgg ctg tcc gga tgc aac Pro Val Asn Lys Lys Met Ser Ala Ser Arg Arg Leu Ser Gly Ser Asn 445 450 455	74595
gcg gag cag gcc ggc gcg atc atg acc gag ctc ggc gcc acc gcc gga Ala Glu Gln Ala Gly Ala Ile Met Thr Glu Leu Gly Ala Thr Ala Gly 460 465 470 475	74643
tac atc tac gcc atg ggc gag gag tcc tgg cag ggc cac gtc atg gcg Tyr Ile Tyr Ala Met Gly Glu Glu Ser Trp Gln Gly His Val Met Ala 480 485 490	74691
acg acc tac aac gag gac acc tac cag ctc aag cag atc gac gag ttc Thr Thr Tyr Asn Glu Asp Thr Tyr Gln Leu Lys Gln Ile Asp Glu Phe 495 500 505	74739
ctc gcg tgg tgc gcg gac cgg ggc ttc acc gcc gag cac ctg ttc aac Leu Ala Trp Cys Ala Asp Arg Gly Phe Thr Ala Glu His Leu Phe Asn 510 515 520	74787
aag cgc gag tgg cgc tgg Lys Arg Glu Trp Arg Trp 525	
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agagaaggtt cc	

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gtg gca acc atc gac ggc ccg gat ctg ggc gtc atc ggg Val Ala Thr Ile Asp Gly Pro Asp Leu Gly Val Ile Gly 1 5 10 75709
ctg cgc gtc gac ggc ctc ata ccg atg cag aag gtc agg ccc ggc acg Leu Arg Val Asp Gly Leu Ile Pro Met Gln Lys Val Arg Pro Gly Thr 15 20 25 75757
gtg cgg cgc atc ctc ccg tac gcg aag aaa cac cgc tgg tcc ctg gcc Val Arg Arg Ile Leu Pro Tyr Ala Lys Lys His Arg Trp Ser Leu Ala 30 35 40 45 75805
gtc gcc ctg ctg atg acc gtg gtc gac gcc gcg ctc acg gtc gcc aac Val Ala Leu Leu Met Thr Val Val Asp Ala Ala Leu Thr Val Ala Asn 50 55 60 75853
ccg ctg ctg ctc aag cag atc atc gac cgc ggc atc gtg gcc ggc cgc Pro Leu Leu Leu Lys Gln Ile Ile Asp Arg Gly Ile Val Ala Gly Arg 65 70 75 75901
ctg gac gtg gtg gtc ggc ctg tcg ctg gtg gtg gcc ggc ctc gcc ctg Leu Asp Val Val Val Gly Leu Ser Leu Val Val Ala Gly Leu Ala Leu 80 85 90 75949
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atg cgc cag ccg ctg gcg ttc ttc acc cgg gcg cag acg ggg tcg ctg Met Arg Gln Pro Leu Ala Phe Phe Thr Arg Ala Gln Thr Gly Ser Leu 130 135 140 76093
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tcg atg atc acg cag acg gtc tcc acg gtc ctg acc gtc gtg ctg gtc Ser Met Ile Thr Gln Thr Val Ser Thr Val Leu Thr Val Val Leu Val 160 165 170 76189
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gtg ctc atc ccg ctg ttc ttc ctg ccc ggc aag ctc atc gcg ggc cgg Val Leu Ile Pro Leu Phe Phe Leu Pro Gly Lys Leu Ile Ala Gly Arg 190 195 200 205 76285
ctg gag cgg ctg gcc cgc ggc ggc atg cag gtc gac gcg gag ctg ggc Leu Glu Arg Leu Ala Arg Gly Gly Met Gln Val Asp Ala Glu Leu Gly 210 215 220 76333
tcg atg atg aac gag cgg ttc aac gtc tcc ggc gcc atg ctg gtc aag Ser Met Met Asn Glu Arg Phe Asn Val Ser Gly Ala Met Leu Val Lys 225 230 235 76381
ctc tac ggc cgg ccg gag agc gag gag acc gcc ttc gcc ggg cgg gcc Leu Tyr Gly Arg Pro Glu Ser Glu Glu Thr Ala Phe Ala Gly Arg Ala 240 245 250 76429

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gcg cgg gtg cgt gac atc gcc atc tcg atg ggc gtg cac gca cgg ctg Ala Arg Val Arg Asp Ile Ala Ile Ser Met Gly Val His Ala Arg Leu 255 260 265	76477
ctg ttc atc atc gcc acg ctg ctg acc acg gtg acc acg gcc atg gtc Leu Phe Ile Ile Ala Thr Leu Leu Thr Thr Val Thr Thr Ala Met Val 270 275 280 285	76525
tac ggc ttc ggc ggc gcc ctg gtc atc gac ggc acg ctc ggc atc ggc Tyr Gly Phe Gly Gly Ala Leu Val Ile Asp Gly Thr Leu Gly Ile Gly 290 295 300	76573
acc ctt gtc gcc atg gtc gcc ctg ctg gcg cag ctg tac ggc ccg gtg Thr Leu Val Ala Met Val Ala Leu Leu Ala Gln Leu Tyr Gly Pro Val 305 310 315	76621
aac cag ctc acc aac atc cag gtg gac gtc gtc acc gcg ctg gtg agc Asn Gln Leu Thr Asn Ile Gln Val Asp Val Val Thr Ala Leu Val Ser 320 325 330	76669
ttc gac cgg gtc ttc gag gtg ctc gac ctc gac ccg ctc gtc aag gag Phe Asp Arg Val Phe Glu Val Leu Asp Leu Asp Pro Leu Val Lys Glu 335 340 345	76717
cgc ccg ggc gcc cgc gcc ctg ccg gcc gcc gag ccg ggc cgc tcg gcg Arg Pro Gly Ala Arg Ala Leu Pro Ala Ala Glu Pro Gly Arg Ser Ala 350 355 360 365	76765
gcg ccg gac atc gag ttc gac aac gtc gtg ttc cgc tat ccg ggc gcg Ala Pro Asp Ile Glu Phe Asp Asn Val Val Phe Arg Tyr Pro Gly Ala 370 375 380	76813
gac gag gtc tcg ctg gcc tcg ttg gag acc gtg gcc cag cgg tcc tcc Asp Glu Val Ser Leu Ala Ser Leu Glu Thr Val Ala Gln Arg Ser Ser 385 390 395	76861
gac ggc acc gcg gag cgg ccg gtg ctc aac ggg atc agc ttt ctc gcc Asp Gly Thr Ala Glu Arg Pro Val Leu Asn Gly Ile Ser Phe Leu Ala 400 405 410	76909
ccg gcc ggc aag ctc acc gcc ctg gtc ggc ccg tcg ggc gcc ggc aag Pro Ala Gly Lys Leu Thr Ala Leu Val Gly Pro Ser Gly Ala Gly Lys 415 420 425	76957
acc acg atc acc cac ctg gtg ccg cgc ctc tac gac acc acc tcg ggc Thr Thr Ile Thr His Leu Val Pro Arg Leu Tyr Asp Thr Thr Ser Gly 430 435 440 445	77005
acg gtc cgg atc gcc ggc cac gac gtc cgc gac ctc acc ctg cgc tcg Thr Val Arg Ile Ala Gly His Asp Val Arg Asp Leu Thr Leu Arg Ser 450 455 460	77053
ctg agc gag tcc atc ggc gtg gtc acg cag gac gcg cac ctg ttc cac Leu Ser Glu Ser Ile Gly Val Val Thr Gln Asp Ala His Leu Phe His 465 470 475	77101
gac acc atc cgg gcc aac ctg ctc tac ggc cgt ccc gac gcc ggc gag Asp Thr Ile Arg Ala Asn Leu Leu Tyr Gly Arg Pro Asp Ala Gly Glu 480 485 490	77149
cgc gac ctc gtc gcg gcc tgc gag gcg gcc cgc atc tgg gag atg gtg Arg Asp Leu Val Ala Ala Cys Glu Ala Ala Arg Ile Trp Glu Met Val 495 500 505	77197

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tcc tgc ctg ccc gac ggg ctg gac acg gtg gtc ggc gat cgc ggc tac	77245
Ser Ser Leu Pro Asp Gly Leu Asp Thr Val Val Gly Asp Arg Gly Tyr	
510 515 520 525	
cgg ctc tgc ggc ggc gag aag cag cgc ctc gcc ctg gcc cgc ctg ctg	77293
Arg Leu Ser Gly Gly Glu Lys Gln Arg Leu Ala Leu Ala Arg Leu Leu	
530 535 540	
ctc aaa tgc ccc ccg gtg gtg gtg ctc gac gag gcc acc gcc cat ctg	77341
Leu Lys Ser Pro Pro Val Val Val Leu Asp Glu Ala Thr Ala His Leu	
545 550 555	
gac tcc gaa tgc gag gcg gcg atc cag cgg gcc ctg gac acg gcg ctc	77389
Asp Ser Glu Ser Glu Ala Ala Ile Gln Arg Ala Leu Asp Thr Ala Leu	
560 565 570	
gcc ggg cgt acg tgc ctc gtc atc gcc cac cgg ctc gcc acg atc ctg	77437
Ala Gly Arg Thr Ser Leu Val Ile Ala His Arg Leu Ala Thr Ile Leu	
575 580 585	
gac gcc gac cag atc ctc gtc atc gac gac gcc cgc gtc gtc gag cgc	77485
Asp Ala Asp Gln Ile Leu Val Ile Asp Asp Gly Arg Val Val Glu Arg	
590 595 600 605	
ggc acc cac gac gag ctg atc gcg cac ggt gcc ctg tac gcc gag ctg	77533
Gly Thr His Asp Glu Leu Ile Ala His Gly Gly Leu Tyr Ala Glu Leu	
610 615 620	
tac cgg acc cag ttc gcc ggc cag cgc acc gag gag cgc cag ccg gcc	77581
Tyr Arg Thr Gln Phe Ala Gly Gln Arg Thr Glu Glu Arg Gln Pro Ala	
625 630 635	
gtg ccg tcc	
Val Pro Ser	
640	
tga	77593
gatgtccctg gaggacgacg ttgcggcggc cgggtattcc cggccgcgcgc agtcgtatgg	77653
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cgcgcccgag ggccatgtcg tcggtcagct ccccgcgag gatgtcgagc acgtgccgca	77773
cgcgggccgt gccgcgcacc gcgaggccgt acagcacccg gcggcctacc aggaccgcgt	77833
cggcgccgag ggccagcgac agcaggacgt cgcggccgcg ccgcacgccg ccgtcgagca	77893
ggaccgggca gcgccgggcc accggccgcca ccacctcggg cagcacgtcg agcgtcgccg	77953
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gcaggcgga gtcgttgccg atgtcccgca ggcggcggcc cagccgcggc gcgtcgacgg	78253
tgagcaccag cgctcgaag ccggcgcgga cggccctcgt gacgagcgcg gcggtgaccg	78313
cccggtcgcg gaagcaatag acctgcaacc agcgcggcgc ggtggtggcc gcggcgatgt	78373

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cctccacggt	ccgcccggag	aacgtgctca	ccacgagcgg	cagcccggcc	gcgcccggcg	78433
ccgcccgggt	ggcgacctcg	cccgcgggt	cgacgagcgt	gtgatagccg	agcggggcga	78493
cgccgatcgg	cgccgccac	cgccgtccga	ggatcgctgt	gcccggtgcc	ggcgcgcccg	78553
cgccgggtcag	cacccgtggc	cgcagcccg	gcgggtgcgaa	ggcggcggtg	ttcgcgccca	78613
gcgtcagctc	ctcccccgcg	ccgcccggga	tgaagtccca	caccgggggc	tccattcgcg	78673
cttggggcag	ctgttcgtag	tccgcgaggg	tcaggggcag	gagggcggtg	gcggtcacgg	78733
cgccgtcctt	tcgctggcgg	cctggagggc	ccggcgaggg	ggccgagcga	gcccccgac	78793
cactatggac	gtcggccgaa	ccgtccacca	acgcagctca	ccgacggtgt	ccaaccgtgc	78853
gttcgcgga	gttgacacag	tgtgcgggtca	ccgcgtggc	ttcgattgat	cgggtgcgaa	78913
tgccgtgcc	cagtcagggc	ttcgcgacga	ccgaggagac	catg		
atg agc atc	ctg cgc gag	gct ccg ggc	acc ggc cgc	gtc ctg cgg	cgc	79005
Met Ser Ile	Leu Arg Glu	Ala Pro Gly	Thr Gly Arg	Val Leu Arg	Arg	
1	5	10	15			
gag gac	ctg cac	cag agc	ctg tcc	gac ccg	ctg ctg	79053
Glu Asp	Leu His	Gln Ser	Leu Ser	Asp Pro	Leu Leu	
	20	25	30			
ttc ctc	aac gag	gtg acc	gcc cgc	tat ccg	cga gcc	79101
Phe Leu	Asn Glu	Val Thr	Ala Arg	Tyr Pro	Arg Ala	
	35	40	45			
ccc ggc	cgc ccg	ttc gac	ggg ttc	ttc gac	gtc gag	79149
Pro Gly	Arg Pro	Phe Asp	Gly Phe	Phe Asp	Val Glu	
50	55	60				
ggc atc	cgc ggc	tat ctc	gag gag	cac ctc	gcc ggc	79197
Gly Ile	Arg Gly	Tyr Leu	Glu His	Leu Ala	Gly Gln	
65	70	75	80			
gcg gag	atc agg	gac gcc	gtc ttc	cag tac	ggc ccg	79245
Ala Glu	Ile Arg	Asp Ala	Val Phe	Gln Tyr	Gly Pro	
	85	90	95			
atc cgc	gag gtg	atc gcg	cag tgg	ctg ccg	cgc gac	79293
Ile Arg	Glu Val	Ile Ala	Gln Trp	Leu Arg	Arg Asp	
	100	105	110			
gtg gct	ccg gag	tcc atc	gtc gtg	acg gtc	ggc gcg	79341
Val Ala	Pro Glu	Ser Ile	Val Val	Thr Val	Gly Ala	
	115	120	125			
ctg ctg	gcg ctg	cgc gcg	ctg atc	cgg gac	gag cgc	79389
Leu Leu	Ala Leu	Arg Ala	Leu Ile	Arg Asp	Glu Arg	
130	135	140				
gtg gcg	agc ccg	tgc tac	gtc ggc	atc acc	ggc gcc	79437
Val Ala	Ser Pro	Cys Tyr	Val Gly	Ile Thr	Gly Ala	
145	150	155	160			
gac atc	gac ccg	gtg ccc	gtc gcc	gag cgc	gag gac	79485
Asp Ile	Asp Pro	Val Pro	Val Ala	Glu Arg	Glu Asp	
	165	170	175			

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gag gac ctg gcc cgc gcg gtc cac gcg gag ctg agc cgg ggc cgg cgt	79533
Glu Asp Leu Ala Arg Ala Val His Ala Glu Leu Ser Arg Gly Arg Arg	
180 185 190	
ccc cgc gcc ttc tat gtc gtg ccc gac cac acc aac ccg tcg ggc gcc	79581
Pro Arg Ala Phe Tyr Val Val Pro Asp His Thr Asn Pro Ser Gly Ala	
195 200 205	
acg atg ccg ctg gag gcc cgc cac gcc ctg ctc gac ctc gcc ggc gag	79629
Thr Met Pro Leu Glu Ala Arg His Ala Leu Leu Asp Leu Ala Gly Glu	
210 215 220	
ctc ggc ctg ctg gtg atc gag gac agc ccg tac cgg ctc gtc agc ccg	79677
Leu Gly Leu Leu Val Ile Glu Asp Ser Pro Tyr Arg Leu Val Ser Pro	
225 230 235 240	
ggg cag cag ctt ccc tcc ctc aag gcc ctc gac ccg ggc cgg cac gtc	79725
Gly Gln Gln Leu Pro Ser Leu Lys Ala Leu Asp Pro Gly Arg His Val	
245 250 255	
gtc cac ctc gga tcg ttc tcc aag acg ctc ttt ccg ggc gcg cgc gtg	79773
Val His Leu Gly Ser Phe Ser Lys Thr Leu Phe Pro Gly Ala Arg Val	
260 265 270	
ggc ttc gcg atc gcc gac cag ccg gtg tcg gac gcc gcg ggc ggc gcc	79821
Gly Phe Ala Ile Ala Asp Gln Pro Val Ser Asp Ala Ala Gly Gly Ala	
275 280 285	
ggc ctg ctc gcc gac gag ctg gcg aag gtg aag agc atg gtc acg gtg	79869
Gly Leu Leu Ala Asp Glu Leu Ala Lys Val Lys Ser Met Val Thr Val	
290 295 300	
aac acc tcg ccg ctg agc cag gcc gcc gtg gcc ggg atg ctg ctc gcg	79917
Asn Thr Ser Pro Leu Ser Gln Ala Ala Val Ala Gly Met Leu Leu Ala	
305 310 315 320	
gcc ggc ggc acc gcg gcc gag gcg agt gcg gag agc tcg gcg cac tac	79965
Ala Gly Gly Thr Ala Ala Glu Ala Ser Ala Glu Ser Ser Ala His Tyr	
325 330 335	
ggc gcg gcg atg cgg cgc acc ctc gac ccg ctc gag gag cac ctt ccg	80013
Gly Ala Ala Met Arg Arg Thr Leu Asp Arg Leu Glu Glu His Leu Pro	
340 345 350	
gcg tcc ttc cgc gca cgc acg ggc gtg cgc tgg aac cgc ccg agc ggc	80061
Ala Ser Phe Arg Ala Arg Thr Gly Val Arg Trp Asn Arg Pro Ser Gly	
355 360 365	
ggc ttc ttc ctc gcc gtg aac gtg ccc ttc acc gcc gac aac gcc gcc	80109
Gly Phe Phe Leu Ala Val Asn Val Pro Phe Thr Ala Asp Asn Ala Ala	
370 375 380	
ctg tcc cga agc gcc gag gac cac ggg gtg atc tgg acg ccg atg tcg	80157
Leu Ser Arg Ser Ala Glu Asp His Gly Val Ile Trp Thr Pro Met Ser	
385 390 395 400	
tac ttc tac ccg gcc ggc ggc ggc gaa cag ggc atc cgc ctg tcg atc	80205
Tyr Phe Tyr Pro Ala Gly Gly Gly Glu Gln Gly Ile Arg Leu Ser Ile	
405 410 415	
agc tac ctc acc ccg gag gag atc gac gag ggt gtc aag ccg ctg gcg	80253
Ser Tyr Leu Thr Pro Glu Glu Ile Asp Glu Gly Val Lys Arg Leu Ala	
420 425 430	

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ggc ttc atc acg acc gag atc gcg gca ctc cgg ccg
 Gly Phe Ile Thr Thr Glu Ile Ala Ala Leu Arg Pro
 435 440

tga cccacccgaa tcgcacagtc tgcaacttgc 80322

agaaataggg ccgaacccgt ccccggcgcc ctccggccggg gcggcccggga cccggccggc 80382
 acgtccaccg tggcaccccc gagatctccc ggttgaccag tacgaacggc acggacacga 80442
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 cagcgggtcat cggagtcacg ccattcgggg gttggt

atg gag tca ttg cac atc gcg tca gcg cgc cac 80751
 Met Glu Ser Leu His Ile Ala Ser Ala Arg His
 1 5 10

gag ccg gat cgg cac gac gaa aca cag atg aac act ccg tca atg atg 80799
 Glu Pro Asp Arg His Asp Glu Thr Gln Met Asn Thr Pro Ser Met Met
 15 20 25

cgc gtc gag tgg cta cct gtg gat tca ctg gaa atg ctc gat tca ccc 80847
 Arg Val Glu Trp Leu Pro Val Asp Ser Leu Glu Met Leu Asp Ser Pro
 30 35 40

cgg ctg gcc ggc gag gat ccg cgg cac acc cag atg ctg gcc agc ctc 80895
 Arg Leu Ala Gly Glu Asp Pro Arg His Thr Gln Met Leu Ala Ser Leu
 45 50 55

gac gcc gaa ctg ccg ccg atc atc gtg cac cgc gca agc atg cgg gtc 80943
 Asp Ala Glu Leu Pro Pro Ile Ile Val His Arg Ala Ser Met Arg Val
 60 65 70 75

atc gac ggc gcg cac ccg ctg ggc gcg gcc cgg ctg cgc ggc gac gag 80991
 Ile Asp Gly Ala His Arg Leu Gly Ala Ala Arg Leu Arg Gly Asp Glu
 80 85 90

ctg atc aag gcc gcg atg ttc gag ggc agc gag cag gag gca ttc gtc 81039
 Leu Ile Lys Ala Ala Met Phe Glu Gly Ser Glu Gln Glu Ala Phe Val
 95 100 105

ctc ggc gtc aag gcg aac atc gcg cac ggc ctg cca ctg tcc aca gcg 81087
 Leu Gly Val Lys Ala Asn Ile Ala His Gly Leu Pro Leu Ser Thr Ala
 110 115 120

gac cgc acg cgc gcc gcg gaa ccg atc atc gag tcc cat ccg tcc tgg 81135
 Asp Arg Thr Arg Ala Ala Glu Arg Ile Ile Glu Ser His Pro Ser Trp
 125 130 135

tca gac cgc aca ata gcg gcc tcc agc gga ctc agc gcc cgc acc gtg 81183
 Ser Asp Arg Thr Ile Ala Ala Ser Ser Gly Leu Ser Ala Arg Thr Val
 140 145 150 155

ggc aac ata cgc ccg cgc ctc gag ctc tcc ggc gac atc ggg cag ggc 81231
 Gly Asn Ile Arg Arg Arg Leu Glu Leu Ser Gly Asp Ile Gly Gln Gly
 160 165 170

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tgc cgc acc cgc gtc ggc cgg gac ggc cgg gtg cgc ccg ctg gac aat	81279
Ser Arg Thr Arg Val Gly Arg Asp Gly Arg Val Arg Pro Leu Asp Asn	
175 180 185	
tcc gag ggc cga ctg aag gcc gtc agc tac att cag caa cag ccc gac	81327
Ser Glu Gly Arg Leu Lys Ala Val Ser Tyr Ile Gln Gln Gln Pro Asp	
190 195 200	
gcc tcc ctg cgg gag atc gcc aag aac gcc ggc gta tgc ccc tgc acc	81375
Ala Ser Leu Arg Glu Ile Ala Lys Asn Ala Gly Val Ser Pro Ser Thr	
205 210 215	
gcg cgt gac gtg cgc aat cgc ctg cag cgc ggc gag gac ccg ctg ccc	81423
Ala Arg Asp Val Arg Asn Arg Leu Gln Arg Gly Glu Asp Pro Leu Pro	
220 225 230 235	
ggc ccc cgc cgc acg ggc ggt cac cgc gac gac att tcc ttc gac aag	81471
Gly Pro Arg Arg Thr Gly Gly His Arg Asp Asp Ile Ser Phe Asp Lys	
240 245 250	
gaa aac acg att cgg ctg ctc gag ccg acc gtg cgg tca ata ctt caa	81519
Glu Asn Thr Ile Arg Leu Leu Glu Pro Thr Val Arg Ser Ile Leu Gln	
255 260 265	
ggc ttg aag aac gac ccg tgc ctg cga ttt acc gaa tcc ggc cgc aat	81567
Gly Leu Lys Asn Asp Pro Ser Leu Arg Phe Thr Glu Ser Gly Arg Asn	
270 275 280	
ctt ttg cga tgg gtt ctt gcc cgc acg gtt caa gat gat gag tgg aaa	81615
Leu Leu Arg Trp Val Leu Ala Arg Thr Val Gln Asp Asp Glu Trp Lys	
285 290 295	
gac atg ctc gac gcg gtt ccg tgc cat tgc acg tac gtc ctg gcg aac	81663
Asp Met Leu Asp Ala Val Pro Ser His Cys Thr Tyr Val Leu Ala Asn	
300 305 310 315	
gtg gcc cgg cgt tgt tca caa gag tgg ttg gaa ttc gcc gaa aca ctc	81711
Val Ala Arg Arg Cys Ser Gln Glu Trp Leu Glu Phe Ala Glu Thr Leu	
320 325 330	
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Glu Lys Asn Ala Ala	
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cgccggccag	atagagcaac	gtgttctcgt	agtcgaggct	gaactggccc	aggggcccgg	84239

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cgcagtcgcc	gccccgsgggg	cactgcgccc	gatagtcgtc	gtaggcgccc	cggatgtcga	84299
cgccgaggtg	gaccaggtat	gcggcgagca	gggccagcac	gacgaccccc	acgacggcct	84359
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Met Thr Val Arg Pro Leu	
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gcg cca ccc gcg gag gtg cgc ctg gac gac ctg ctc ggc ccc gag gac	8623
Ala Pro Pro Ala Glu Val Arg Leu Asp Asp Leu Leu Gly Pro Glu Asp	
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Ala Trp Asp Ala Glu Thr Ala Ala Arg Asp Ile Ala Glu Glu Phe Pro	
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gcc cgg ctg cac gac cgg ctg aac tcc ttc ggt ctg caa tcc tgg tac	8719
Ala Arg Leu His Asp Arg Leu Asn Ser Phe Gly Leu Gln Ser Trp Tyr	
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Val Pro Pro Glu Trp Gly Gly Ala Pro Gly Asp His Glu Arg Leu Leu	
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His Leu Trp Arg Ala Val Ala Arg Arg Asp Leu Ser Ala Ala Val Ala	
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His Gly Lys Thr Tyr Leu Gly Ser Ala Pro Val Trp Leu Ala Gly Asp	
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Asp Gly Gln Arg Ala Thr Leu Ala Ala Ala Val Leu Ala Gly Thr Pro	
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Val Ala Trp Ala Leu Ser Glu Pro Asp His Gly Ala Asp Leu Leu His	
120 125 130	
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Gly Thr Thr Thr Ala Leu Pro His Asp Ala Gly Tyr Arg Leu Arg Gly	
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Leu Lys Trp Pro Ile Asn Asn Ala Thr Arg Ala Arg Tyr Leu Thr Val	
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Leu Ala Arg Thr Gly Arg Ala Gly Asp Ala Arg Gly Gln Ser Leu Phe	
170 175 180	
ctg gtc gac aag gag gcg ctc gcc ccc ggc acg tgg ctg ccc cgg ccc	9151
Leu Val Asp Lys Glu Ala Leu Ala Pro Gly Thr Trp Leu Pro Arg Pro	
185 190 195	
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Lys Val Ala Thr His Gly Val Arg Gly Ile Asp Ile Ser Gly Ile Ala	
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ttc gag gac gcc ggc ctg ccc ggc acg gcc ctg ctc ggg cgg gcc gga	9247
Phe Glu Asp Ala Gly Leu Pro Gly Thr Ala Leu Leu Gly Arg Ala Gly	
215 220 225 230	

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tgc gcc ggg ctg tgc ctg ggc gcc ggc gac cgc gcg ctg cgg ctg acc Cys Ala Gly Leu Ser Leu Gly Ala Gly Asp Arg Ala Leu Arg Leu Thr 250 255 260	9343
gcc cgc ttc gtg gcc cag cgg atg atc atg cgg cgg ccg ctg ctc gac Ala Arg Phe Val Ala Gln Arg Met Ile Met Arg Arg Pro Leu Leu Asp 265 270 275	9391
cgg ggc cac ccg gcc ggg att ctg gcg cgc tgc gcc gcc ctg ctc gcc Arg Gly His Pro Ala Gly Ile Leu Ala Arg Cys Ala Ala Leu Leu Ala 280 285 290	9439
gcg gcc gag gcg acc gcc gtc gtc ggc acg cgc tgc gtg cac agc ctc Ala Ala Glu Ala Thr Ala Val Val Gly Thr Arg Ser Val His Ser Leu 295 300 305 310	9487
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Glu Gly Arg His Thr Ala Asp Pro Leu Trp Ala Asp Gly Leu Trp Val	
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ctg gcc gcg ctg cgt gcc gtg cgc cgg gag ctg gcc cgg gtg ctg cgg	10159
Leu Ala Ala Leu Arg Ala Val Arg Arg Glu Leu Ala Arg Val Leu Arg	
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Ala Pro Ala Pro Asp Pro Gly Pro His Asp Asp Gly Ala Asp Arg Leu	
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Leu Ala Ala Arg Val Ala Ala Ala Ala Arg Thr Gly Glu Pro Val Thr	
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ccg ttc ggc acg gcc ctg cgg ccg ccc gcc ggc acc gtc cgg gcg gag	10303
Pro Phe Gly Thr Ala Leu Arg Pro Pro Ala Gly Thr Val Arg Ala Glu	
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 Ile Leu Glu Asp Glu Pro Asp Ile Glu Val Val Ala Glu Ala Val Asp
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Ser Glu Pro Ile Pro Leu Ser Asp Arg Glu Leu Glu Val Ala Arg Ala	
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Ile Ala Arg Gly Arg Thr Asn Gln Glu Ile Ala Ala Asp Leu Phe Ile	
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Arg Asp Ile Thr Val His Leu Leu Asp Ala Asp Pro Ala Ala Ala Arg
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APPENDIX A

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